

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

NORTHEASTERN REGION
AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 44

January 23, 1975

Employee Activities

Soybean Research - M. M. Kulik, Seed Quality Laboratory, spent a week visiting with soybean pathologists and breeders in four mid-Western States to learn about soybean seed quality problems and ongoing research. Unfavorable weather at soybean harvesting time has in recent years resulted in a reduction in seed quality, manifested by poor appearance and lowered germinability and vigor.

New Staff Member - Dr. Gordon Gordh has joined the staff of the Systematic Entomology Laboratory, where he will be conducting research on and handling identifications for the parasitic Hymenoptera in the superfamily Chalcidoidea. He received his Ph.D. degree from the University of California at Riverside; his research interests are primarily in the taxonomy and biology of scale insect parasites.

School Speaker - Dr. Jesse H. Bennett, Air Pollution Laboratory, gave a talk and slide presentation at St. Joseph's School in Beltsville January 18. His subject concerned the effects of pollutants on plants.

Predoctoral Study - Mr. A. G. Lavalley, a Ph.D. candidate in the Department of Entomology at the University of Georgia, recently completed 10 weeks' study with members of the Diptera Section of the Systematic Entomology Laboratory as a predoctoral Smithsonian Research Fellow. His interests in immature stages of Diptera and in the classification of Empididae, the balloon flies, demanded the close cooperation of and consultation with G. C. Steyskal and F. C. Thompson, among others.

South American Travel - R. A. Kilpatrick, Germplasm Resources Laboratory, visited 13 locations in six countries throughout South America November 15-December 22, 1974. Problems relating to the International wheat and oat rust nursery program were discussed. A seminar, "Challenges to International Cooperation," was presented to staff and graduate students of the Plant Pathology Department, La Molina University, Lima, Peru.

Honors and Awards

Wilma C. Ross, Non-Ruminant Animal Nutrition Laboratory, was honored on December 21, 1974, at an Extravaganza Classique held at All Souls Unitarian Church in Washington, D.C. Citations were given by a newly organized Promotional Association of Friends and Constituents at their 1st Annual 'Christmas Special.' Awards were given to a group (8) of outstanding citizens of the Washington Community for humanitarian and meritorious

achievements representing various endeavors of their society. Wilma's responsibilities in the United Methodist Church for many years, her services and responsibilities in the American Legion Auxiliary Department of Maryland, and her responsibilities, accomplishments, and citations in the Federal Government were basis for her citation.

Quality Increases

Vivian Foley, Director's Office, BARC
 Carol A. Tracey, AMRI
 Mary A. Brocker, API
 Mildred L. Behrens, API
 Marilyn S. Stanfield, AMRI

Cash Award

Mary S. Schied, DOBA

Cooperative Activities

Mite Research - Dr. Edward W. Baker, acarologist of the Systematic Entomology Laboratory, recently travelled to Albany, New York, and Yuma, Arizona, in connection with research on mites. He is collaborating with Dr. Mercedes Delfinado of the New York State Museum in a study of mites associated with pollinating bees and other insects, and with Dr. Donald Tuttle, University of Arizona Experiment Station, in extensive research on the plant mites of Mexico.

Food Distribution Center for Wilkes-Barre, Scranton - The U.S. Customs Service recently designated the Standard Metropolitan Statistical Area (SMSA) of Luzerne, Lackawanna, and Monroe Counties around Wilkes-Barre/Scranton as an "Inland Port of Entry." The designation came primarily as the result of efforts by a local industry group who is developing the 125-acre food distribution center for the Wilkes-Barre/Scranton area proposed by the Food Distribution Research Laboratory. This will offer significant incentive to food wholesalers and other firms to locate on the Center. Firms having need to establish "Foreign (Free) Trade Zones" will have additional incentive in trade opportunities offered by tariff, quota, and excise tax benefits. In addition, grants totaling almost \$2 million have been made by the Economic Development Administration and the Appalachian Regional Commission for the construction of access roads and sewage and drainage systems for the Center.

Book Publication - The publication of the book, *Mites Injurious to Economic Plants*, by Lee R. Jeppson (University of California, Riverside), Hartford H. Keifer (California Department of Agriculture, retired), and Edward W. Baker, Systematic Entomology Laboratory, has been announced. It consists of 528 pages, is illustrated, and it covers the general systematics, biology, distribution, control, and role in plant diseases. The publishers are the University of California Press, Berkeley 94720.

Television Taping - Dr. C. D. Foy, Plant Stress Laboratory, in collaboration with Mr. Jim Whitman of ARS Agricultural Information Service and Mr. Donald Elder of USDA Communications Service, recently taped two, three-minute interviews for WRC's DOWN TO EARTH concerned with tailoring plant genotypes for greater tolerance to mineral stress factors in acid and alkaline soils.

Visitors From:

Canada - Dr. J. R. Vockeroth, Biosystematics Research Institute, Research Branch, Agriculture Canada, visited with dipterists of the Systematic Entomology Laboratory, December 26-30. He consulted with Dr. F. C. Thompson on the classification of Syrphidae, the aphid killing flies, and with Dr. R. J. Gagne on a revision of Mycetophilidae, the fungus gnats.

Soviet Union - Dr. Evgeny G. Konoplev, Assistant to the Agricultural Counselor, Embassy of the Soviet Union, visited the Animal Parasitology Institute to discuss with Drs. Herlich, Kates, Enzie, and Mr. Colglazier the latest knowledge and recommendations for chemotherapeutic control of helminth parasites of domestic animals.

Japan - Dr. Kazuaki Kamijo, Hokkaido Forest Experiment Station, Hokkaido, visited the Hymenoptera Section of the Systematic Entomology Laboratory where he spent the period November 25 to December 6 studying the chalcid parasites of Japanese forest pest insects.

Sierra Leone - Professor Modupe O. Williams of the University of Sierra Leone, Freetown, visited the Animal Parasitology Institute for two days recently to study specimens from the National Parasite Collection. He discussed techniques of culturing helminths with Frank Duvres and Robert Knight, and arranged for an exchange of literature and parasite specimens with Ralph Lichtenfels.

Pakistan - Dr. G. M. Balock of the Commonwealth Institute of Biological Control, Rawalpindi, Pakistan, recently visited Miss Rose Ella Warner of the Systematic Entomology Laboratory to discuss identification of Bagous weevils being studied for possible biological control of Hydrilla verticillata, an aquatic weed introduced into Florida.

BARC EEO Committee

This committee considers questions that pertain to EEO at BARC. The activities of this committee will be summarized in a forthcoming issue of News Notes. Employees are encouraged to bring their questions and concerns to the attention of any one of the following members:

Barbara B. Aulenbach, AMRI, 43483
 Amber L.S. Cheng, PGGI, 43872
 Alice V. Gibson, AEQI, 43052
 Charlie Jackson, NI, 42284
 Maxine H. Lutz, PPHI, 43143
 Mary Marshall, NI, 42146
 Samuel A. Marshall, DOBA, 42464

Patricia McCawley, PPI, 43689
 Eleanor C. Moore, APCI, 42406
 Linda F. Randall, APCI, 42334
 Merrill S. Timmins, ADO, 42121
 Robert S. Yates, DOBA-NAL, 43784
 Robert H. Cross, NER Personnel 43151

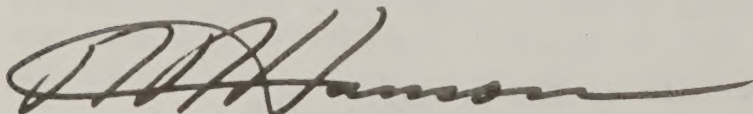
Biographical Sketches

Dr. Marie L. Farr, Mycology Laboratory, PPI, was born in Vienna, Austria, and received her B.S. and M.S. from Michigan State University; her Ph.D. from the University of Iowa. She first majored in Soil Conservation, then in Botany, and finally in Mycology, and obtained minors in General Agriculture, Entomology, and Bacteriology.

She held Research and Teaching Assistant positions at Washington State University; Smith College, Northampton, Massachusetts; Michigan State University; and the University of Iowa. She also was employed by the Veterans Hospital, Iowa City; as Research Botanist at the Institute of Jamaica (West Indies); and as Research Mycologist by the Instituto de Micologia, Universidad Federal de Pernambuco, Recife, Brazil, before joining ARS as a Mycologist at Beltsville.

Her personal research has included surveys of fungi causing plant diseases in Cambodia and of Bolivian fungi, and taxonomic studies on fungi occurring on club mosses (*Selaginella*), but is centered primarily around black mildew fungi, fungi of the Family Dimeriaceae (Pseudosphaeriales, Ascomycetes), and Myxomycetes.

Dr. Farr has described four new genera, 52 new species, and 21 varieties and combinations in more than 50 publications. She has also reported 865 new host and distribution records. She has served as Councillor and Vice-President of the Mycological Society of America, and as Corresponding Secretary of the Washington Botanical Society. She is a world authority on mycology and is listed in Who's Who in American Women.



A. A. Hanson, Director
 Beltsville Agricultural Research Center

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
NORTHEASTERN REGION
AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 45

February 6, 1975

Employee Activities

Radio Interview - Drs. C. D. Foy and J. C. Brown, Plant Stress Laboratory, in collaboration with Mr. Jim Whitman of ARS Information Service, recently taped for radio a 13-minute interview concerned with tailoring plant genotypes for greater tolerance to mineral stress factors in acid and alkaline soils.

Seminar Presentation - Dr. Bela Szepesi, Carbohydrate Nutrition Laboratory, presented a seminar at the University of California at Davis, entitled "Dietary Sucrose: Demonstration of a Specific Disaccharide Effect and its Mechanism". It was demonstrated that the disaccharide causes a larger enzyme induction in the liver than its monosaccharide components. Such disaccharide specific action of dietary carbohydrates are under intense investigation as possible etiological factors in the development of diabetes and heart disease.

Invited Papers and Talks

Federal City College Class - Alley Watada and Howard Hruschka of the Horticultural Crops Marketing Laboratory lectured a Food Science class of 30 students from Federal City College one evening at Beltsville. Dr. Watada spoke on measuring quality and Mr. Hruschka spoke on refrigeration and quality maintenance of fresh produce. Dr. Tony Khalil, Director of Quality Assurance, Giant Food, Inc. made the arrangements for this cooperative effort.

National Marine Fisheries Service - Dr. J. R. Lichtenfels, Animal Parasitology Institute, discussed the systematics of nematode parasites of clams at a workshop in Oxford, Maryland, January 23, at the request of Dr. Aaron Rosenfield, Dir. of the Oxford Laboratory, National Marine Fisheries Service, NOAA, U.S. Dept. of Commerce. The workshop was attended by representatives of the Shellfish Institute of North America (an industry group), FDA, several NOAA, State and university laboratories.

Honors and Awards

Dr. Philip C. Kearney, Chief, Pesticide Degradation Laboratory, has received the Research Award for 1974 from the Weed Science Society of America. The award was made at the WSSA Awards luncheon on Wednesday, February 5 at the Statler Hilton Hotel in Washington, D. C.

Quality Increases

Laurence J. Slana, PGGI
Judith G. Hallfrisch, NI

Cash Award

Roy N. Pea, Germplasm Resources Laboratory, for modification of procedures for growing new introductions of rice for initial greenhouse seed increases. Suggestion results in considerable savings in cost of materials and greenhouse space and permits the growing of more entries simultaneously.

Honors and Awards

American Genetics Association elected Dr. Patricia A. Sarvella, Field Crops Laboratory, PGGI, as President. A cytogeneticist, Dr. Sarvella is nationally and internationally known for her research on parthenogenesis and interspecific hybrids of chickens with game birds, and related studies. She is currently conducting cytogenetic research on barley and wheat.

Cooperative Activities

Wind-Energy - Dr. L. A. Liljedahl, Chief, Physical Control Laboratory, has been working with the National Science Foundation to develop a 5-year national plan of research on wind-energy applications in rural and remote locations. The result is a plan for research on use of wind-mills for heating, cooling, drying, and irrigation using current technology as well as added research on electrical generation by wind power. Funding decisions and solicitations for proposals will probably follow later after NSF approval of the Program Plan.

Putting Research to Work

Public Appreciation - The Animal Parasitology Institute recently received a letter expressing encouragement and appreciation from the scientific community for their Index Catalogue of Medical and Veterinary Zoology. Few things are more gratifying than expressions of appreciation from those we serve.

Renaming of Laboratories

Effective February 2, the Livestock and Meat Marketing Laboratory, AMRI, was redesignated as the Meat Science Research Laboratory. Dr. A. W. Kotula continues as Laboratory Chief. The Laboratory will emphasize quality evaluation, quality maintenance, and research to improve grades and standards for meat and livestock carcasses.

Also effective February 2, the Dairy and Poultry Products Marketing Laboratory, AMRI, was redesignated as the Animal Products Marketing

Laboratory. Dr. T. F. Webb became Laboratory Chief. The Laboratory will focus upon research to improve facilities, equipment, and labor efficiency of operations associated with processing and marketing a broad spectrum of animal products.

New Location for Laboratory

The Beneficial Insect Introduction Laboratory of the IIBII has been officially established in Building 417, BARC-E, as of January 13. The staff includes: Mr. Jack R. Coulson, Chief; Dr. Robert F. W. Schroder, Research Entomologist; Dr. Suzanne W. T. Batra, Research Entomologist; Mr. William Dodson, Biological Technician; Ms. Pattye Kessler, Assistant to J. R. Coulson; and Mrs. Deborah L. Faulconer, Secretary. Mrs. Rita Connors, Clerk-Typist for the Laboratory, has remained at the old location in Bldg. 003-West. The BIIL staff is looking forward to expanding its research and informational capabilities in the area of biological control of insects and weed pests in its new location.

Visitors From:

New Jersey: Dr. Robert F. Denno, Department of Entomology, Rutgers University, and students in his Systematics class visited the Systematic Entomology Laboratory on January 7 and 8. Dr. Richard H. Foote and Dr. Douglass R. Miller discussed the taxonomic activities of the Laboratory and showed the students the Beltsville facilities. Dr. Ronald W. Hodges discussed problems in systematic entomology and led the class through the extensive SEL facilities at the U.S. National Museum (Natural History).

BARC Science Seminar

The January BARC Science Seminar was presented by Dr. Irwin Fridovich, Professor Biochemistry at Duke Medical Center, Durham, N.C. The topic was "Oxygen Radicals, Oxygen Toxicity and Superoxide Dismutases." Dr. Fridovich traced the history of discovery of the superoxide dismutase enzyme whose function was at first unknown. By a succession of interesting experiments Dr. Fridovich and colleagues were able to assign a protective function to this enzyme which acts as a scavenger of the toxic superoxide radical. The presence of the enzyme was demonstrated in all aerobic organisms while it was absent in obligate anaerobes. Superoxide dismutase appears to be essential to organisms living in an aerobic atmosphere and provides another mechanism for controlling oxygen entering cells.

The February seminar in this series will be presented by Dr. Henry N. Wood on February 5, at 2:30 in the BARC Auditorium. The title of Dr. Wood's lecture is "The Development of a Capacity for Autonomous Growth of the Crown Gall Tumor Cell."

Biographical Sketches

Dr. Florence L. Lakshmanan, Protein Nutrition Laboratory, NI, was born in New York and received her B.S. from the College of Mount St. Vincent and her Ph.D. from the University of Maryland in 1958. She joined ARS as a Research Chemist at Beltsville in 1958.

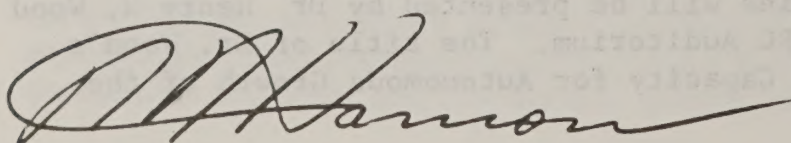
Her personal research has included chemical fractionation of the muscle proteins of turkeys, electrophoretic separations of blood serum protein fractions, interaction between heredity, diet and age on the serum proteins, high resolution electrophoretic techniques of urinary proteins, effect that diet and weight reduction have on the concentration of chlorinated hydrocarbon pesticide residues of tissues, and application of blood and urine metabolites and enzymes as criteria in assessing human amino acid requirements.

Her current research effort involves developing and evaluating new methods for determining human dietary requirements for protein. She has continued to expand her area of expertise studying radiochemistry, thin-layer chromatography, zonal centrifugation, separation methods for macromolecules, electrophoresis, immunoelectrophoresis, immunodiffusion, ultracentrifuge, and electronics in addition to spending one academic year at M.I.T. auditing courses in biochemistry and nutrition and participating in the research on human amino acid requirements.

Dr. Jean R. Adams, Insect Pathology Laboratory, PPI, was born in New Jersey and received her B.S. and Ph.D. from Rutgers. Between her B.S. and Ph.D. she was a Research Scientist with Rohm and Haas Co., Bristol, Pa. She joined ARS as a Research Entomologist at Beltsville in 1962.

Her personal research has included nuclear polyhedrosis viruses of cabbage looper, Trichoplusia ni (Hubner) and of zebra caterpillar, Ceramica picta, on sugar beets; cytoplasmic polyhedrosis virus of pink bollworm, pectinophora gossypiella (Saunders); discovery of transovum transmission of a cytoplasmic polyhedrosis virus; development of a rapid technique for determination of osmolalities of insect hemolymph; pathogenesis of nuclear polyhedrosis virus, cytoplasmic polyhedrosis virus, and granulosis virus infections; forms of the virion in nuclear polyhedrosis virus infections; specificity of replication of insect viruses; and abnormalities resulting from failure of polyhedrosis virus to replicate.

She is a member of many professional societies and frequently advises graduate students both in the United States and abroad.



A. A. Hanson, Director
Beltsville Agricultural Research Center

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NOTES FROM THE DIRECTOR

No. 46

February 20, 1975

Employee Activities

Diabetes Mellitus - Dr. Walter Mertz, Chairman, Nutrition Institute, has been appointed to represent the Department of Agriculture on a Diabetes Mellitus Coordinating Committee. On July 23, 1974, P.L. 93-354, the National Diabetes Mellitus Research and Education Act was signed into law. In addition to the establishment of the Commission, this Act was directed to establish the above-mentioned Committee. One of the purposes of the Committee will be coordinating those aspects of all Federal health programs and activities relating to diabetes mellitus to assure the adequacy and technical soundness of such programs and activities and to provide for the full communication and exchange of information necessary to maintain adequate coordination of such programs and activities.

Invited Papers and Talks

Viroid Lectures - Dr. T. O. Diener, Plant Virology Laboratory, delivered invitational lectures on his viroid research at the following institutions and meetings: Pasteur Institute, Paris; Second John Innes Symposium, Norwich, England; Max-Planck Institute for Virus Research, Tubingen, Germany; University of Oxford, England; Annual Meeting, Society for Experimental Biology, London; Annual Meeting, Theobald Smith Society, New Jersey; Seton Hall University, Orange, New Jersey; and Rockefeller University, New York City.

NRC-NAS Symposium - Dr. Joel Bitman, Chief, Biochemistry Laboratory, recently presented a paper at the National Research Council-National Academy of Science Symposium on Altering Fat Composition of Animal Products held at the Academy, December 11-14, 1974. The paper was entitled "Status Report on the Alteration of Fatty Acid and Sterol Composition in Lipids of Meat, Milk, and Eggs."

Weed Science Society Meeting - Dr. E. A. Woolson, Pesticide Degradation Laboratory, presented an invitational paper, "Problems in Soil Analysis for Herbicides," at the Annual Meeting of the Weed Science Society of America. The meeting was held in Washington, D.C. February 3-7.

Cooperative Activities

Lima Bean Research - Dr. C. A. Thomas, Applied Plant Pathology Laboratory, and Vernon Fisher, University of Delaware, recently released a greenseeded Fordhook lima bean breeding line, F-169. The outstanding attributes of the line are its resistance to races A and B of downy mildew, and its green seed coat and cotyledons which enable it to maintain high quality for several days.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY

REPORT OF THE
COMMISSIONER OF PLANT INDUSTRY
FOR THE YEAR 1911

1911

The Department of Agriculture has the honor to acknowledge the receipt of the report of the Commissioner of Plant Industry for the year 1911. The report contains a detailed account of the work of the Bureau of Plant Industry during the year, and is a valuable contribution to the knowledge of the plant industry of the United States. The report is divided into two parts, the first of which contains a general statement of the work of the Bureau, and the second of which contains a detailed account of the work of the various divisions of the Bureau. The report is well written and is of great interest to all those who are concerned with the plant industry of the United States.

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Strawberry Research - Earliglow, a new strawberry cultivar originated at Beltsville, was released to nurseries last month. Earliglow is a very early ripening cultivar that is resistant to five races of red stele root rot, verticillium wilt, and foliage diseases. The vigorous plants are very productive and the fruit has very good flavor for both fresh use and frozen pack. Reports indicate that Earliglow has a rather wide adaptation in the eastern United States. Earliglow was originated by the cooperative strawberry breeding project between the Department of Horticulture, University of Maryland, and the Fruit Laboratory, PGGI.

Viroid Research - Dr. T. O. Diener, Plant Virology Laboratory, is collaborating with Drs. H. D. Robertson, E. Dickson (Rockefeller University), and W. Prenskey (Sloan-Kettering Institute for Cancer Research) in efforts to determine the structure and mode of replication of viroids; with Dr. R. K. Horst (Cornell University) on properties of the agent of chrysanthemum chlorotic mottle disease (a newly recognized viroid disease), with Professor H. Duranton and Dr. M. Pinck (Louis Pasteur University, Strasbourg, France) on the aminoacylation properties of potato spindle tuber viroid; with Dr. J. M. Sogo (Roche Institute for Molecular Biology, Nutley, New Jersey) on electron microscopy of viroids; and with Dr. J. W. Randles (University of Adelaide, South Australia) on the possible viroid nature of the destructive cadang-cadang disease of coconut.

High-Energy Feed Supplement - Mr. Robert Rawlings, President, Alta Lipids Ltd., visited the Biochemistry Laboratory on January 15 to discuss plans for cooperative research. Alta Lipids has a new high-energy feed supplement which is composed of tallow protected with formaldehyde-treated soybean meal.

Food Distribution Research Laboratory Report Commended - Robert Castellini, Chief Executive Officer of the Castellini (Produce) Company of Cincinnati, Ohio, was quoted in the December 28 issue of "The Packer" commending the Food Distribution Research Laboratory report entitled "Selected Costs of Produce Wholesaling in Old and Modern Facilities, Boston, Massachusetts, ARS-NE-50." He stated that he considered it an important piece of research, adding further that, "The way in which they went about getting these costs is interesting and it could be a way for all terminal markets to evaluate their costs." James Karitas, Food Distribution Research Laboratory, and Marvin Volz, Market Operations Research Laboratory, are authors of the report.

Honors and Awards

Dr. Ben Bereskin of the Genetics and Management Laboratory was recently elected as a Fellow of the American Association for the Advancement of Science. He was cited for both applied and theoretical contributions to the genetic improvement of domestic livestock species.

Dr. R. H. Miller, Chief, Genetics and Management Laboratory, was reelected Secretary of the American Genetic Association at their annual meeting held at the Cosmos Club, Washington, D.C. on January 18.

Quality Increases

Elmer C. Simpson, Jr., Plant Nutrition Laboratory, PPhI
 Kenneth L. Tuthill, Ornamentals Laboratory, PGGI
 Judith Ann Sager, Ruminant Helminthic Diseases Laboratory, API

Cash Awards

Michael B. Hayden, Genetics and Management Laboratory, for design, development, and testing of electronic monitoring systems with which to study the physiological responses of dairy cattle to milking systems and to challenge by mastitis-causing pathogens.

Francis B. Smith, Animal Operations Unit, for performance of duties in an outstanding manner far exceeding those expected in the care, feeding, breeding, and management of a swine herd utilized in genetics research.

Putting Research to Work

Scientists at the Bioenvironmental Bee Laboratory, PPI, have succeeded in initiating and maintaining brood rearing in honey bee colonies fed a chemically defined diet (Beltsville Bee Diet). This is the first time that a synthetic diet has been capable of sustaining brood rearing. In addition to the synthetic diet, four other natural sources of protein were found to be adequate replacements for pollen in the honey bee diet. One of the four materials is presently considered a waste product of the brewery industry.

Recent research at the Insect Pathology Laboratory, PPI, has demonstrated the feasibility of large scale cultures of insect cells to produce insect viruses for controlling pest insects. The tissue culture system has several advantages over the current methods of production in insects. The conditions for cell growth and virus replication can be closely controlled to assure a uniform final product that is free of all micro-organisms except the desired virus. Relatively simple, inexpensive procedures will be needed to harvest the virus and remove contaminating insect material which could be allergenic for some people. Also, many of the probable commercial producers of insect viruses already have plant facilities and personnel experienced in some type of tissue culture and would not have to make large investments in the new facilities and personnel required to produce viruses in mass-reared insects. Currently, pilot scale systems are being developed to demonstrate the production of viruses active against the cabbage looper and the gypsy moth.

BARC Welcomes - Dr. Ross A. Waterman, who joined the staff of the Biochemistry Laboratory as a research chemist on February 3. After undergraduate work at Cornell University, Dr. Waterman obtained his Ph.D. from the University of Wisconsin with Dr. L. H. (Bud) Schultz in lipid metabolism. He then spent a two-year post-doctoral period with Dr. Gilbert Leveille in the Department of Food Science and Human Nutrition at Michigan State University.

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Highlights of the Beltsville Agricultural Research Center
EEO Advisory Committee's Activities
for the Period May 1973 Through December 1974

The BARC EEO Advisory Committee has been very active since its inception. Dr. A. A. Hanson has kept an open-door policy for employees and has continually stressed the importance of informally resolving potential problems. Employees are at liberty to call him if they have serious problems pertaining to EEO.

The Committee has been busy implementing EEO goals established by the Civil Service Commission and the Department. In addition, Dr. Hanson and the Committee tried to alleviate the deep concern that employees have had over their futures and the future of BARC. This report highlights several activities undertaken by the Committee.

Merit Promotion Program

The Committee endorses the Merit Promotion Plan. Their concern is with employees on our rolls who might be adversely affected by new procedures that were established as a result of a Civil Service audit. Some employees found they were locked into their positions; others, who previously were eligible for promotion when audits of their positions showed they were performing at higher levels, would now have to compete with others for their own positions. Because of the consternation caused by the new procedures, the Committee felt employees should have a better understanding of how the Merit Promotion Program affects them. A subcommittee was formed to make arrangements to get first-hand information to employees.

A series of Merit Promotion briefings were held in conjunction with Center-wide Position Management meetings. Mr. Ronald Kerrigan of ARS Personnel Division and Messrs. T. J. Clark, Roger Roark, and Len Emerson of the Northeastern Region were present to answer questions. As a result of these meetings, some problems were resolved; others are in the process of being resolved; still others will require an alternative route to reaching a higher grade. Not all problems were resolved to the satisfaction of our employees, but we will continue to actively seek ways to improve our employees' potential for advancement.

The Committee was instrumental in securing information to help stenographers and typists obtain the 6-months experience in secretarial duties necessary to become eligible for secretarial positions. Experience serving in the absence of the Laboratory Chief's secretary can be counted. Applications will now be accepted from candidates at the GS-4 level who do not meet the 6 months specialized experience requirement. If one of these applicants is selected, the individual is placed in the position at the GS-4 level until the specialized time requirement is met, at which time the employee is promoted to the GS-5 level. This can be applied only in those cases where there are not sufficient numbers of qualified applicants.

The Committee's concern over the dilemma of research assistants who seemed to be locked into their positions regardless of their potential - like secretaries - was brought to the attention of the Regional Office. These positions are presently being reviewed to determine what types of positions they will be occupying.

The Committee voiced its objection to the use of the form AD-435 to break ties when ranking candidates for positions. The use of this form has been discontinued.

Members of the Committee have been called upon to be present at ad hoc promotion committee meetings to see that EEO policies are followed. Very favorable reports were received on the unprejudiced and fair-minded approach that members of these panels took in arriving at their conclusions.

Training

A subcommittee was formed to delve into the training program. Contacts were made with the Washington Technical Institute (a Land Grant College), the Prince Georges Community College, and other area colleges regarding course content of college level and technical programs, to find out what is involved in providing on-site training at Beltsville. They contacted the NER Employee Development Section and the Regional and BARC Training Committees, to see what could be done regarding implementing training programs at BARC. The BARC Training Committee has sent out questionnaires to employees to determine what courses they would be interested in taking.

Supervisor Involvement

A subcommittee studied ways to get supervisors actively involved in the EEO Program. Consideration is being given to a number of the proposals given by the Chairman of the subcommittee. These include the following: improvements in training plans; current reporting of grade levels; length of time in grade and minority status of BARC employees; and appropriate recognition of supervisors who perform well in realizing EEO objectives.

Dr. Hanson continues to encourage supervisors to see that their employees are given the opportunity to take advantage of training available to them.

Vacancy Announcements

Getting vacancy announcements to employees in time for them to apply for positions was a major concern of the Committee and has been resolved. Announcements are posted on the official bulletin boards in all buildings and are routed to employees.

Additional Concerns Considered by the Committee

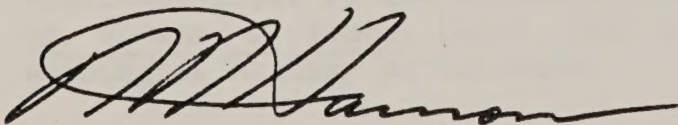
1. Status of Upward Mobility programs.
2. Career counseling - how can employees qualify for promotion?

3. Lack of development of career ladders for professional and non-research positions.
4. Effective communication of information to employees.
5. Insufficient time allowed for filing applications in response to vacancy and merit promotion announcements.
6. Decisions on contracting out work that otherwise would have been performed by the Division of Operations.
7. Provision of on-site training for technicians by BARC staff at Beltsville.
8. Orientation and training of supervisors.
9. Criteria used for selection of applicants for jobs filled by merit promotion.
10. Criteria used for selection of applicants for participation in Upward Mobility programs.
11. Proposed changes in classification of research assistant positions to support or research categories.
12. Need for guidelines for supervisors of EEO counselors.
13. Lack of provision of data necessary for the committee to perform its function to assess the progress of action plans.
14. Feasibility of sponsoring a lecture for employees on how to fill out a Form 171.

Employees are encouraged to bring their questions and concerns to the attention of any one of the following members:

Barbara B. Aulenbach, AMRI, 43483
Amber L.S. Cheng, PGGI, 43872
Alice V. Gibson, AEQI, 43052
Charlie Jackson, NI, 42284
Maxine H. Lutz, PPHI, 43143
Mary Marshall, NI, 42146
Samuel A. Marshall, DOBA, 42464

Patricia McCawley, PPI, 43689
Eleanor C. Moore, APCI, 42406
Linda F. Randall, APCI, 42334
Merrill S. Timmins, ADO, 42121
Robert S. Yates, DOBA-NAL, 43784
Robert H. Cross, NER Personnel, 43151



A. A. Hanson, Director
Beltsville Agricultural Research Center

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

NORTHEASTERN REGION
AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 47

March 6, 1975

Employee Activities

BARC welcomes - Dr. Robert Reynolds who joined the staff of the Vitamin and Mineral Nutrition Laboratory, MI, to do research involving a study of the utilization, function, requirements, and interrelations of vitamins in experimental animals as affected by specific dietary regimens. The ultimate goal of the research is to provide a scientific basis for recommending foods and diets conducive to optimal health and well-being during the lifespan of man. The primary research will be to determine those variables which can influence the nutritional requirement for vitamin B₆ and to develop techniques for assessing nutritional status with regard to pyridoxine. Dr. Reynolds obtained his B.S. from the Ohio State University; Ph.D. from the University of Wisconsin; and spent a two-year postdoctoral fellowship with Dr. Gerhard Schreiber of the Biochemisches Institut, University of Freiburg, West Germany.

Sunflower Research - C. A. Thomas, Applied Plant Pathology Laboratory, participated in a sunflower research planning conference at the USDA Southwestern Great Plains Research Center, Bushland, Texas, January 30-31, 1975. Current and projected sunflower research, related particularly to expanded production in the Great Plains, was discussed by some 38 attendees.

Meteorologist Detail - Dr. D. M. Hershfield of the Hydrograph Laboratory has been detailed, temporarily, to serve as Meteorologist on the LACIE staff. "LACIE," [a cooperative project between USDA, the National Oceanographic and Atmospheric Administration (NOAA), and the National Aeronautics and Space Administration (NASA)], means "Large Area Crop Inventory Experiment".

Honors and Awards

Two Research Entomologists of the Systematic Entomology Laboratory, IIBIII, have been honored by being elected to high offices for 1975 in internationally known professional societies. Dr. Ronald W. Hodges was chosen as President-Elect by the Lepidopterists' Society, and Mr. George C. Steyskal as President-Elect by the Entomological Society of Washington. In addition, Dr. Richard H. Foote, Chief, SEL, has been elected as Treasurer of the Washington Academy of Sciences.

Cash Awards

Billy G. Byrd, Animal Parasitology Institute, for superior performance in the care and maintenance of animals used in the study of parasitism of livestock.

Robert G. Leek, Animal Parasitology Institute, for outstanding service as the Institute's safety representative.

Tommy L. Pike, Animal Physiology and Genetics Institute, for a suggestion on slaughtering procedure resulting in considerable savings to the government.

Invited Papers and Talks

Association Presentations - Dr. Frank N. Dickinson, Chief of the Animal Improvement Programs Laboratory, was invited to give presentations to the annual meetings of the Maryland Dairy Herd Improvement Association in January and the Missouri Dairy Herd Improvement Association in early February. Dr. Dickinson described the new procedures adopted by ARS in the calculation of the USDA-DHIA Modified Contemporary Comparison procedure for evaluating dairy bulls and cows to both of these groups.

Cooperative Activities

Horticultural Sciences Growth Chamber Handbook Workshop - Dr. Donald T. Krizek, Plant Stress Laboratory, recently chaired and attended the American Society for Horticultural Sciences Growth Chamber Handbook Workshop at Las Vegas, Nevada. The workshop was held at the Environmental Protection Agency's National Environmental Research Center, on February 6 and 7, 1975. The latest draft of the Growth Chamber Handbook was reviewed and cooperative efforts were discussed on NSF funded base-line growth studies.

Major Identification Project - A major task of insect identification has been accomplished on material submitted to the Systematic Entomology Laboratory, IIBIII, by the California Academy of Sciences. Over 1600 specimens of 125 species, almost entirely grass flies and eye gnats of the fly family Chloropidae from North and South America, were identified by Dr. C. W. Sabrosky, and important additions of species and representative specimens were made to the National Collection.

Teaching-Research Mission - Mr. T. J. Spilman, Dr. R. J. Gagne, and Dr. P. M. Marsh, Research Entomologists of the Systematic Entomology Laboratory, IIBIII, participated in a cooperative arrangement with Pennsylvania State University in February by helping to teach a course in insect taxonomy. They presented lectures and laboratory sessions in their areas of specialization and studied material in the Frost Entomological Museum at the University pertinent to their research programs.

Putting Research to Work

Environmental Entomology, Volume 3, No. 6, December 1974, published by the Entomological Society of America, is a good example of some of the uses that are made of the insect and mite identifications provided by the Systematic Entomology Laboratory, IIBIII. Six papers in this issue acknowledge the aid received. The identifications provided are authoritative identifications that are critically important to the research reports. Research in insect ecology represents just one of the many areas for which the Laboratory provides identifications. It is the taxonomic research which the Laboratory conducts, that makes identifications possible.

Visitors From

Down-Under Day - The Biochemistry Laboratory, APGI, was recently host to three visitors from New Zealand and Australia. Dr. David Kronfeld, originally from New Zealand, and now Professor of Nutrition, University of Pennsylvania School of Veterinary Medicine, Dr. John Wadsworth, CSIRO, Division of Animal Physiology, Prospect, N.S.W., Australia, and Dr. Gary Vaughan, Hawkesbury Agricultural College, Richmond, N.S.W., Australia, visited Joel Bitman and Randall Wreim to discuss polyunsaturated milk and meat. They sampled some of the chocolate polyunsaturated ice cream which was served at the Animal Science meeting and a batch of vanilla which was prepared later.

Japan - A group of five scientists touring a number of pesticide research institutes in the United States visited the Biologically Active Natural Products Laboratory on February 4 to discuss insect attractants, repellents, toxicants, and growth regulators. The group consisted of chemists Izuru Yamamoto (Tokyo University of Agriculture), Shinichi Inazuka (Ajinomoto Co., Inc.), Takeniro Sato (Nippon Soda Co., Ltd.), and Saburo Takanashi (Hokko Chemical Industry Co., Ltd.), and entomologist Shizuo Higashikawa (Ninon Tokusnu Noyaku Seizo K.K.). They also visited with the staff of the Insect Physiology Laboratory and discussed areas of mutual interest including recent developments on insect hormonal chemicals as agents for insect control.

India - Dr. D. R. Bhumbra, Deputy Director General of the Indian Council of Agricultural Research, visited the Plant Physiology Institute to discuss mutual problems concerning growing crops on problem soils. He consulted with Dr. J. C. Brown and Dr. C. D. Foy of the Plant Stress Laboratory concerning the plant genotype approach to mineral stress problem soils; and with Dr. Christiansen on temperature stress research. He consulted with scientists in the Plant Nutrition Laboratory on nitrogen nutrition of plants.

Japan - Dr. Yonsuke Hoasni, Staff Writer, Science Department, Asahi Shimbun, prominent Tokyo daily newspaper, interviewed T. O. Diener, Plant Virology Laboratory, PPI, for a news story on viroids.

Poland - Dr. Adam Markowski, Director, Department of Plant Physiology, Polish Academy of Sciences, Krakow, Poland, visited the Air Pollution Laboratory, Agricultural Environmental Quality Institute, February 24-25, in connection with the PL 480 project "Effects of Gaseous Air-Pollutants on Water Economy and Productivity of Cultivated Plants." He presented a seminar on the project which is nearing completion after 5 years of research. On the 26th he visited laboratories in the Plant Physiology Institute. While in the country, he will visit air pollution research laboratories at four other locations in the United States.

Japan - Dr. Tomoaki Narikawa, Chief, Laboratory of Kidney and Adsuki Bean Breeding, Hokkaido Prefectural Tokachi Agricultural Experiment Station, Hokkaido, Japan, spent January 29-31, 1975, at BARC discussing bean breeding research with Dr. J. P. Meiners, Chief, Applied Plant Pathology Laboratory.

Multi-Country - Approximately 100 weed scientists from the United States, Canada, and several foreign countries were treated to a 5-hour tour of BARC on February 3 prior to the beginning of the Weed Science Society of America

annual meeting in Washington, D.C. Following a welcome by Dr. L. L. Danielson, Chairman of ABQI, the group visited research projects on pesticide degradation, air pollution, alfalfa investigations, aluminum toxicity, and sludge composting. The tour was arranged by the Visitors Service and sponsored by the Pesticide Action Laboratory. A high level of interest in the Beltsville research facilities by agricultural scientists was evidenced by the fact that many requests for tour tickets had to be denied when the seating capacity of the buses was exceeded. Numerous scientists who missed the tour made individual arrangements to visit BARC during the week of the meetings.

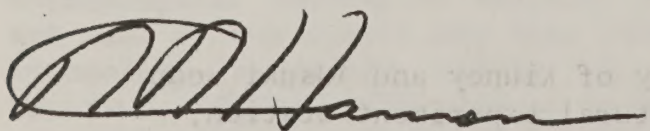
Massachusetts - Dr. Alfred F. Newton, Jr., Post-Doctoral Fellow at the Museum of Comparative Zoology, Harvard University, recently visited Dr. Donald H. Anderson, Systematic Entomology Laboratory, IIBIII, in connection with research on the larvae of staphylinoid beetles. Material in the National Collection is under study by Dr. Newton, and his research will aid SEL specialists in future identification work in this group of insects.

Biographical Sketches

Miss Louise M. Russell, Research Leader, Hemiptera-Thysanoptera Research Group, Systemic Entomology Laboratory, IIBIII, was born in New York State. She received her B.S. in 1926 and her M.S. in 1927 from Cornell University. She has spent most of her federal career as a Research Entomologist with the Systematic Entomology Laboratory and will retire May, 1975, after 48 years of service.

In her personal research, Miss Russell has made significant contributions to the taxonomy and systematics of scale insects, psyllids, aleyrodids, aphids, and their relatives. Miss Russell has produced about 60 scientific papers concerning homopterous insects, which are of prime agricultural importance. Because of the techniques and special knowledge required to perform research on and identification of these insects, workers in plant pathology and economic entomology around the world have sought her opinions on zoological and nomenclatural matters and her assistance in identifying material critical to their research.

Miss Russell currently serves as an adjunct professor at North Carolina State University. She has served in various capacities in scientific societies including the Presidency of the Entomological Society of Washington and Chairman of the Section on Systematics, Morphology and Evolution of the Entomological Society of America. The latter society awarded her a Certificate of Merit in recognition of her contributions to the science of entomology and her outstanding services to the profession of entomology.



A. A. Hanson, Director
Beltsville Agricultural Research Center

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BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 48

March 20, 1975

Employee Activities

Virginia Veterinary Medical Association - Dr. Thomas O. Roby, Chief, Haemoprotozoan Diseases Laboratory, API, presented an invitational talk on Bovine Anaplasmosis at the Association meeting in Fredericksburg, Virginia.

Piroplasmosis Symposium - Dr. Wayne M. Frerichs, Haemoprotozoan Diseases Laboratory, API, presented the results of over ten years of research at API in a symposium on piroplasmosis of horses and other animals at the New Bolton Center of the University of Pennsylvania's School of Veterinary Medicine.

Louisiana State University Rice Conference - Dr. Martin M. Kulik, Seed Quality Laboratory, AMRI, attended the 1975 Rice Variety Improvement Planning Conference in Baton Rouge, Louisiana. He discussed rice seed pathology and soybean seed quality with the Louisiana State University plant pathologists and discussed soybean seed quality research at the Delta Branch Experiment Station and Mississippi State University.

Seminar Presentation - Dr. Ronald Fayer, Histoprotzoan Diseases Laboratory, API, presented a seminar to the Department of Pathobiology, University of Connecticut, on "The Epidemiology and Pathogenesis of Bovine Sarcosporidiosis."

Natural Enemies Working Group - Mr. Jack R. Coulson, Chief, Beneficial Insect Introduction Laboratory, IIBIII, attended the third meeting of the ARS Working Group on Natural Enemies in Brownsville, Texas, and presented priorities for foreign explorations for beneficial insects at the ARS European Parasite Laboratory in France. In connection with the meeting, he also attended the joint U.S.A. - Mexico Workshop on Biological Control of Insect Pests and Weeds.

Trichinosis Workshop - An informal interagency discussion to evaluate the trichinosis research program was held at the Animal Parasitology Institute. Representatives from Area and Region Offices; the National Program Staff; Animal and Plant Health Inspection Service; Communicable Disease Center, Atlanta, Georgia; and Los Alamos Scientific Laboratory, Los Alamos, New Mexico, met with Drs. Andrews, Enzie, Isenstein, and Tromba of API and discussed present accomplishments and future goals in trichinosis research.

Chemosterilants in India - Dr. A. B. Borkovec, Chief of Insect Chemosterilants Laboratory, AEQI, conducted the First All-India Chemosterilant Conference, February 19-22, 1975, at the University of Agricultural Sciences, Bangalore, India. During his previous visit to India in 1973 as an FAO consultant, Dr. Borkovec helped to establish the Indian Chemosterilant Association that has now over 100 members. Dr. E. F. Knipling, former Science Adviser to the Administrator, and Dr. Borkovec were elected honorary members of the Association. Under sponsorship of the United Nations Development Program (UNESCO), Indian scientists operate a Center for Information and Research on Chemosterilization and Genetic Techniques where compounds developed in Beltsville are being tested as potential pest control agents. Dr. Borkovec also lectured at several Indian universities and reviewed two PL-480 projects concerning chemosterilization of insects.

Honors and Awards

Outstanding Achievements for Former USDA Scientist - John A. Stevenson, former mycologist with ARS has double cause to celebrate. His newest book, "The Fungi of Puerto Rico and the American Virgin Islands," has been published and he was presented an Outstanding Achievement Award by the University of Minnesota. He was in charge of the fungus collections for more than thirty years and became head of the Mycology and Plant Disease Reporting Section. Since his retirement in 1960, he has continued as a Collaborator with the Smithsonian Institution and is still active in the USDA National Fungus Collection at Beltsville.

Weed Science Society of America - Dr. Phillip C. Kearney, Chief, Pesticide Degradation Laboratory, AEQI, has received the 1975 Research Award presented by the Society during their 15th annual meeting.

Distinguished Alumnus - Mr. Robert L. Smiley, Systematic Entomology Laboratory, IIBIII, has been selected to deliver the main address at the Academic Honors Day at Alabama A&M University on April 11.

Outstanding Presentation of a Paper - Dr. Jerrel B. Powell, Field Crops Laboratory, PGGI, has been notified by the Executive Vice President, Crop Science Society of America, that he has been cited for the outstanding presentation of his paper, "A Promising Breeding Technique for Inducing Variation in Apomictic Kentucky Bluegrass (Poa pratensis L.)."

Invited Talks and Papers

Cultured Products Conference - Dr. Noble Wong, Dairy Food Nutrition Laboratory, NI, was an invited speaker at the Annual Meeting of the Cottage Cheese and Cultured Products Conference of the University of Maryland on March 12. Dr. Wong's topic, "Effect of Manufacturing Variables on Mineral Content of Cottage Cheese," elicited a good response indicating that nutritional studies on dairy products are of considerable interest to the industry.

"Adapting Plants to Mineral Stresses in Problem Soils," was the title of an invitational lecture presented by Dr. Charles D. Foy, Plant Stress Laboratory, PPhI, at the West Virginia Grassland Council Meeting in Morgantown, West Virginia.

Cooperative Activities

Major Avalon Dungar, Mr. Gravland Hudson, and Mrs. Emily Price from the U.S. Army Troop Support Agency at Fort Lee, Virginia, conferred with Mr. John F. Freshwater, Food Distribution Research Laboratory, AMRI, on March 11, 1975, concerning dishwashing systems. The U.S. Army is currently exploring the feasibility of a centralized dishwashing system for all major military posts.

Future Activities

International Congress of Entomology - The 15th International Congress of Entomology is to be held in Washington, D.C., August 19-27, 1976. Dr. Curtis W. Sabrosky, Systematic Entomology Laboratory, IIBIII, is President of the Congress.

Tobacco Chemists' Research Conference - The 29th Tobacco Chemists' Research Conference, October 8-10, 1975, is being sponsored this year by BARC, with cooperation of tobacco scientists from the University of Maryland. Dr. T. C. Tso, Chief, Tobacco Laboratory, PGGI, will serve as general chairman.

Visitors from:

Wisconsin - Dr. Robert Sellars, Director, Culture Research Center, Hansen Laboratories, Milwaukee, Wisconsin, recently visited the Dairy Foods Nutrition Laboratory to discuss their new research project on the nutritional and therapeutic value of fermented milks. Dr. Sellars is an enthusiastic supporter of this concept and will be following closely DFNL's progress.

Biographical Sketches

Dr. Thomas O. Roby, Chief, Haemoprotozoan Diseases Laboratory, API, was born in Maryland and received his D.V.M. from Auburn University and his M.S. from Michigan State University.

He joined USDA as a Veterinarian in 1952. Concurrent with the reorganization, he became Chief of the Haemoprotozoan Diseases Laboratory. His personal research has included canine leptospirosis and heartworm (Dirofilaria immitis) among dogs; standardizing the complement-fixation test for the diagnosis of bovine anaplasmosis; isolation of Anaplasma marginale using splenectomized adult bovine animals; controlling anaplasmosis without the use of drugs or pesticides by selecting non-infected replacement females and rearing them in separate pastures; demonstrating for the first time

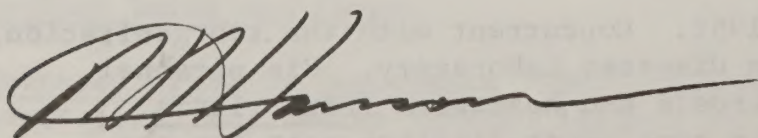
that the tropical horse tick, Dermacentor nitens, was a hereditary vector of Babesia caballi; development with co-worker of the Rapid Card Agglutination Test for the diagnosis of bovine anaplasmosis; developing a treatment regimen, using the experimental drug imidocarb, which resulted in sterilization of the bovine carrier of A. marginale; and development of basic information on the hematology, immunology, and epidemiology of anaplasmosis, equine periodic ophthalmia, equine influenza, and rinderpest.

Dr. Roby is a member of and has held offices and committee assignments in several professional societies and is internationally known in the field of anaplasmosis. He has received a Certificate of Merit, a Superior Service Award, and a Certificate of Appreciation from USDA.

Dr. Paul L. Lentz, Chief, Mycology Laboratory, PPI, was born in Indianapolis, Indiana, and obtained his B.S. from Butler University and his M.S. and Ph.D. from the State University of Iowa. He majored in Botany and Mycology. Dr. Lentz joined ARS as a Mycologist at Beltsville in 1947. Concurrent with the reorganization, he became Chief of the Mycology Laboratory.

His personal research has contributed to the formulation of a comprehensive system of developmental and comparative micromorphology for the fungus class, Hymenomycetes (Basidiomycetes), which was cited recently as one of the outstanding accomplishments in mycology during the past twenty-five years. His research projects have consisted of applying micromorphological analysis in the interpretation of natural relationships in the large and difficult order Aphyllophorales of the class Hymenomycetes; collecting and determining morphology and culture characteristics of approximately 1,500 forest fungi; preparing definitive mycological characterizations of fungi imperfecti capable of causing severe outbreaks of plant disease under specific circumstances; determining temperature relationships, other biological characteristics and anatomical development of Chaetomiaceae; investigating the pathological significance of fungi on narcotic plants; and developing a concept and initiating plans for a Poison Fungi Center at BARC.

Dr. Lentz is a member of and has held offices and committee assignments in several professional societies and is an internationally known mycologist.



A. A. Hanson, Director
Beltsville Agricultural Research Center

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NOTES FROM THE DIRECTOR

No. 49

April 3, 1975

Employee Activities

New Appointment - Mr. David Morgan of the Visitor Service has been selected to replace Mr. Clarence Britt as Assistant to the Director. He will retain responsibility for development and management of the Visitor Service program and will assume new responsibilities in working with the Director's Office and the Regional Information Office on development of materials for use in the visitor program, BARC conference activities, Photo Lab., and other related areas. Mr. Morgan was born in Pennsylvania and attended Lehigh University and Clemson A&M. He graduated from Penn State in 1956 with a B.S. in Animal Husbandry. He joined ARS, Swine Research Branch, Animal Science Research Division, at Beltsville in 1956. He received his M.S. from the University of Maryland in 1966. In 1968, he joined the Visitor Service and was made Head of that Service in 1974. He is a member of Phi Kappa Phi and Gamma Sigma Delta.

New Laboratory Chief - Dr. David G. McHaffey has been appointed Chief of the Biological Evaluation of Chemicals Laboratory, AEQI. Dr. McHaffey is a highly qualified Entomologist experienced in the biological evaluation of chemicals. In addition, he has had a broad experience in establishing Entomological programs and conducting research in several overseas locations. He received his B.S. degree in Entomology from Colorado A&M College, Fort Collins; his M.S. from the University of Arizona, Tucson; and his Ph.D. from Washington State University, Pullman. He has served in the Biological Evaluation of Chemicals Laboratory for approximately two years, and recently has served as Acting Chief of the Laboratory.

Seminar Presentation - Dr. Dora K. (Holly) Hayes, Chemical and Biophysical Control Laboratory, AEQI, was invited by the Entomology Club at Millersville State College, Pennsylvania, to speak on "Insect Photoperiodism" on March 5, 1975. A letter was received from the college stating "it was the best attendance we've had to date."

Our Celebrity Appears on TV Again - Dr. Henry M. Cathey, Chief Ornamentals Laboratory, PGGI, will make his seventh appearance on the NBC Television Network -- the TODAY Show on May 6, 1975. His subject will be on "No Place for a Garden: Try Highrise Gardening." A good opportunity for those of us with "brown" thumbs.

Enroute to Japan - Dr. Paul W. Schaefer joined ARS on February 18 for a 3-year project on gypsy moth parasite research. Dr. Schaefer will establish an Asian Parasite Laboratory in Japan, which will be administered by the International Programs Division, and will be under the technical direction of Jack R. Coulson, Chief, Beneficial Insect Introduction Laboratory. Dr. Schaefer spent several days visiting the Beneficial Insects Research Laboratory, Newark, Delaware, and the BIIL, Beltsville. Enroute to Japan, he will visit the European Parasite Laboratory, Sevres, France; biocontrol laboratories in Switzerland; and entomologists in Thailand and Hong Kong.

Honors and Awards

Quality Increase - Gladys R. Bolton, Office of Director, AEQI, received an award for outstanding performance of secretarial duties and expediting of all operational activities of the Agricultural Environmental Quality Institute Office.

Cooperative Activities

Financial Assistance - Our Ornamental Program has been strengthened by a grant from the Society of American Florists for \$3,000. This is a good example of industry interest and support for the Beltsville Agricultural Research Program with ornamentals.

Visitors From:

Japan - Drs. W. W. Cantelo, J. M. Schalk, and R. E. Webb of the Vegetable and the Ornamental Laboratories, PGGI, were visited by a group of entomologists from Japanese universities and chemical companies. Their high regard for the entomological research of the USDA was very evident and they were interested in obtaining the opinion of the Beltsville Agricultural Research Center entomologists as to the direction entomology research would be taking. Dr. Cantelo was also visited by Dr. Akio Tateya of the Japanese Government, who wished to discuss the use of genetically modified insects in insect suppression programs.

Japan - Professor Haruo Inagaki of the Hokkaido National Agricultural Experiment Station, Hitsujigaoka, Toyohira-Ku, Sapporo, Japan, spent March 18-19, 1975, visiting the Nematology and Light and Plant Growth Laboratories to discuss problems of mutual interest. He presented a very interesting seminar on the golden nematode of potatoes in Japan, including its distribution, economic importance, control measures, and a possible mode of introduction of this important potato parasite into Japan.

Putting Research to Work

Identification Simplification - The vetch bruchid and the cowpea weevil are important stored grain pests in the United States. Inspectors often have problems in distinguishing these two quite similar species, as required by new regulations of the Agricultural Marketing Service. At the request of AMS, Dr. John M. Kingsolver, Systematic Entomology Laboratory, IIBIII, provided an illustrated guide which simplifies this identification procedure. This guide has been issued by AMS as a visual aid, GR Notice 1619.

New Release - Scientists of the Plant Genetics and Germplasm Institute, have announced the release of two new cultivars of the Rainbow IMPATIENS SERIES derived from the New Guinea Impatiens. These cultivars are hybrid seedlings of Plant Introductions of New Guinea Impatiens, under a Longwood Foundation Grant, selected primarily for their flowers, and for their potential use as container grown, flowering plants.

Attention Telephone Users

We would like to alert telephone users as to the cost of moving telephones or changing numbers. The costs of such moves are expensive and funds come from research dollars which could be used more effectively elsewhere. Costs are approximately \$35 to \$75 per move. Please be conservative and make such moves only when absolutely necessary.

Biographical Sketches

Dr. Judith B. St. John, Pesticide Action Laboratory, AEQI, was born in Memphis, Tennessee, and received her B.S. from Millsaps College and her Ph.D. from the University of Florida in 1966. She was a Post-doctoral Fellow at the University of Florida for one year before joining ARS as a Plant Physiologist at Beltsville in 1967.

Her personal research has included development of super sensitive analytical methodology for indole auxins, mode of action of a plant growth retardant involving altered nucleic acid metabolism, the phytotoxic action of fluoromethyl substituted phenyl pyridazinone herbicides, development of new instrumentation and methodology for measurement of ATP with the firefly luciferin-luciferase enzyme system, confirming the physiological significance in vivo of diuron and chlorpropham inhibition of ATP production, herbicide inhibition of plant lipid synthesis, surfactant phytotoxicity associated with alterations in plant cell permeability, and phytotoxic surfactant alteration of the structure of phospholipid bilayer membranes.

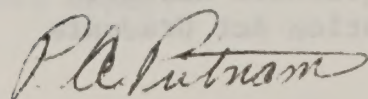
Dr. St. John was a National Science Foundation Undergraduate Research Trainee, recipient of a 3-year National Defense Education Act Graduate Fellowship, and is a member of Sigma Xi.

Mrs. Virginia C. Morris, Vitamin and Mineral Nutrition Laboratory, NI, was born in Birmingham, Alabama, and received her B.S. and M.S. from Auburn University. She joined ARS as a Chemist at Beltsville in 1969 following a year with Food and Drug Administration where she was on loan to the Army Medical and Nutrition Laboratory, Fitzsimons General Hospital, Denver. Her personal research has included analysis of a wide variety of foods typically found in the American diet for their selenium content; advising and aiding a team which showed that normal cooking procedures had little effect on the selenium content of foods; with a team determined that methionine could protect against the toxic effects of selenium but only when high levels of vitamin E are present in the diet; demonstrating that both dietary vitamin E and selenium have an effect on the active transport of cations in rat liver slices; and determining that dietary vitamin E and selenium play different roles in the in vitro swelling of rat liver mitochondria. Her current research involves the biological functions of vitamin E and selenium through the study of various aspects of membrane function in intermediary metabolism.

Mrs. Otelia F. Bodenstein, Research Entomologist, Biological Evaluation of Chemicals Laboratory, AEQI, was born in Glen Allen, Virginia, and received her A.B. from the University of Richmond and her M.S. from Cornell. She began her research career with the Virginia Agricultural Experiment Station. She later spent 2 seasons working with the Bureau of Entomology and Plant Quarantine on whitefringed beetles at Gulfport, Mississippi, and came to Beltsville as a Biological Aid in 1947.

Her personal research at Beltsville has included biological evaluation of pyrethroids, commencing with the first synthetic, allethrin; evaluation of candidate insecticides applied as residual treatments against cockroaches, face flies, and houseflies; evaluation of cockroach repellency and the discovery of the effectiveness of fencholic acid; the biological aspects of developing Federal Specification aerosols and aerosols for aircraft disinsection; establishing the level of chlordane susceptibility of 4 stages of 16 cockroach species and testing for resistance in the field; field tests on face flies and a part in the establishment of the first laboratory colony of this species, thus making possible year-round laboratory experiments.

Mrs. Bodenstein was elected to membership in Beta Beta Beta and Sigma Delta Epsilon and is currently an advisory member of the Insecticide Scientific Committee of the Chemical Specialties Manufacturers Association. She attended the 14th International Congress of Entomology, Canberra, Australia, and the 21st Anniversary Congress of the Entomological Society of New Zealand.



P. A. Putnam, Acting Director
Beltsville Agricultural Research Center

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BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 50

April 17, 1975

Employee Activities

BARC Welcomes - Dr. Ahmed F. Hadidi who joined the Plant Virology Laboratory, PPI, as a microbiologist on February 24, 1975. Dr. Hadidi obtained his Ph.D. in 1967 from Kansas State University. He was on a NIH postdoctoral trainingship appointment at the Department of Virology and Epidemiology, Baylor College of Medicine, Houston, Texas, and later as a research associate at the Department of Molecular Biology and Virus Laboratory, University of California, Berkeley. Before joining ARS, Dr. Hadidi was a Molecular Virologist at the Department of Virology and Cell Biology, Litton Bionetics, Inc., Kensington, Maryland. Dr. Hadidi's research program is concerned with the biochemistry and replication of viroids and with investigations on the possible involvement of viroids in animal diseases of unknown etiology.

Invited Papers and Talks

Sire Summary Procedure - Dr. H. Duane Norman, Animal Improvement Programs Laboratory, APGI, presented explanations of the new USDA-DHIA Sire Summary procedure at the Atlantic Breeders Cooperative Sire Committee Meeting in Lancaster, Pennsylvania, on March 18, 1975. He also talked about the New Sire Summary procedure at the North Central Animal Breeders Conference in Milwaukee, Wisconsin on April 2, and at the Dairy Science Department, University of Wisconsin, on April 3.

Also Drs. Norman and Rex L. Powell, APGI, were invited to explain dairy sire evaluation procedures to Canadian dairy geneticists at an Ottawa meeting on April 15, 1975. Canada is preparing to make improvements to their sire evaluation methods and requested that the USDA scientists share the experiences and background considerations of the recent changes in the USDA system.

Viroid Lectures - Dr. T. O. Diener, Plant Virology Laboratory, PPI, attended a symposium on "Nucleic Acid Replication" at Montbello, Quebec, which was organized by the Canadian Biochemical Society, where he delivered an invited lecture on "Viroid Replication."

Also in March, Dr. Diener was invited by the Japan Medical Research Foundation to give a lecture on viroids at a symposium on "Slow Virus Infections" held in Tokyo, Japan. While in Japan, Dr. Diener visited the Institute for Plant Virus Research in Chiba, consulted with scientists at Iwate University, Morioka, and gave invitational seminars at the Laboratory of Plant Pathology, Kyushu University, Fukuoka, and the National Horticultural Research Station, Morioka.

Genetic Evaluations Seminar - Dr. Rex L. Powell, Animal Improvement Programs Laboratory, APGI, spoke on the topic "Advances in Genetic Evaluations" for a seminar of the Department of Dairy Science, Michigan State University, East Lansing, March 10, 1975.

Cooperative Activities

Soybean Research - A BARC-University of Maryland Soybean Research Review was conducted March 25-26, and was followed by the Middle Atlantic Soybean Research Workers Conference on March 27, which was hosted by BARC.

Drs. R. C. Leffel, T. E. Devine, and C. Sloger, Plant Nutrition Laboratory, PPhI, participated in a Soybean Work Planning Conference at Urbana, Illinois, March 4-5, 1975. The purpose of the conference was to exchange information about soybean physiology and genetics.

The First Annual MAES-BARC Dairy Research Evaluation and Planning Workshop is being held on April 17-18. This, along with the Soybean Workshop mentioned above, serves as a good example of the increasing interrelationship with the State Agricultural Experiment Station and Beltsville and also serves to identify the wide spectrum of the expertise in these research areas at BARC.

International Exchanges - As a part of the continuing interchange between Russian and U.S. scientists, we were visited by Yuri Kerillovich Cherepanov, Deputy Chief, Main Administration of Science & Propaganda, Ministry of Agriculture; Leovid Ivanovich Babenko, Official, Agriculture Department, CPSU, Central Committee; Member Presidium, All Union Academy of Agricultural Science; and German Fedorovich Naumov, Head, Faculty of Selection and Seed Growing, Khar-Kov Agricultural Institute, Imeni, Dokuchayev. They visited with the National Program Staff on the morning of April 16 and in the afternoon met with Dr. Hanson, Dr. Vanden Berg, and Mr. Clark regarding administration of research, and Drs. Garrison, Christiansen, St. John, and Mr. Norris regarding seeds and seed physiology.

Research Report - I recently received a report on the Meat Animal and Related Research Conducted at BARC. This statement summarizes BARC research in the meat animal area which involves six Institutes and approximately 75 SMY's. This report and follow-up activities should assist scientists with interests in meat research in the coordination of their efforts so that maximum return on the research dollar is achieved. Reports such as this are also useful to the National Program Staff and others in the Administrator's Office when evaluating where appropriated dollars may be most effectively utilized. The Committee, composed of Drs. Kotula, Johnson, Miller, Ono, Rumsey, and Tromba, did a fine job.

Situations and Events

National Geographic Contact - On April 14, Drs. Putnam and Cathey were invited to visit with the Publication Committee of the National Geographic Society, Mr. W. S. Ellis, Senior Editorial Staff; J. J. Scherschel, Assistant Director of Photography; and D. J. Frederick, News Service. The meeting is concerned with subject proposals for articles, news releases, and educational material related to agricultural research. It is anticipated that members of the committee will come to Beltsville in the near future.

Metro Proposals - There is to be a public hearing on the METRO routings from the Prince George's Plaza area to 495, on May 5 in the evening at the Adult Education Center at the University of Maryland. This is an important meeting for members of the Research Center and those living in its proximity, because many of the proposed routings could effect the research program and the citizens.

Applied Plant Pathology Open House - A series of Open Houses conducted by Laboratories of the Plant Protection Institute was completed on April 15 when the Applied Plant Pathology Laboratory held its Open House in the Bioscience Conference Room. Members of the Laboratory gave brief descriptions of work underway. Guests were able to view a display of diseased plant materials illustrating research conducted by the plant pathologists of the Laboratory. The sugarcane quarantine facilities were visited by the guests following the talks.

Visitors From:

Poland - Dr. Josef Bakowski, Horticulturist from Skierniewice, Poland, visited the Horticultural Crops Marketing Laboratory, AMRI, and presented a seminar. Dr. Alley Watada is Cooperating Scientist with Dr. Bakowski on a PL-480 project studying the effects of biological factors on the quantitative determination of macro- and micro-elements in green vegetables.

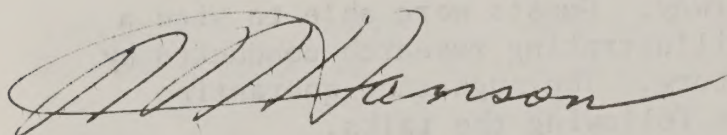
South America - Joaquin Villanueva Llano, Deputy Mayor, La Paz, Bolivia; Jairo Hineztrosa Mejio, Director of Central Planning, Mercalipuerto, Cali, Colombia; and Alvero Hernandez Villegas, Head of Operations of Central Planning, Mercalipuerto, Cali, Colombia, visited the Food Distribution Research Laboratory, AMRI, on March 27. They met with Kenneth H. Brasfield and Richard K. Overheim to discuss the role of ARS in the development of food distribution centers in the United States, and recent developments associated with improved food distribution facilities. They are developing plans and programs for the development of similar food distribution centers in Bolivia and Colombia. The group visited new facility developments in New York and Philadelphia.

Biographical Sketch

Ms. Doris Baker, Carbohydrate Nutrition Laboratory, NI, was born in Pennsylvania, and received her B.S. from the University of Maryland in 1948. She joined USDA as a Chemist with PMA in 1948, joined AMS in 1952, and ARS in 1964.

Her personal research has included procedures for determining fat acidity in grain: (1) extraction method and (2) colorimetric method; flour yielding capacity of four classes of wheat; an evaluation of the biuret procedure and dye-binding method for rapid determination of protein in grain for inspection work; and a storage study of the effectiveness of natural antioxidants, mainly tocopherols, in inhibiting oxidation of refined soybean oil.

Since the reorganization, she has initiated research on methodology for determination of nutritionally significant types and amounts of carbohydrate present in food. She has held numerous offices and committee assignments in the American Association of Cereal Chemists and is also a member of the American Oil Chemists' Society and the American Chemical Society.



A. A. Hanson, Director
Beltsville Agricultural Research Center

UNITED STATES DEPARTMENT OF AGRICULTURE
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AGRICULTURAL RESEARCH CENTER

BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 51

May 1, 1975

Employee Activities

"Plants and Cancer" Symposium - Three scientists from our Medicinal Plant Resources Laboratory, PGGI, will participate in a two-day session sponsored by the Society for Economic Botany at the Society's 16th Annual Meeting to be held June 15-18 at the University of Maryland Medical School, Baltimore. Dr. Robert E. Perdue, Jr., Chief of MPRL, will review the development of the plant procurement program; Dr. Arthur S. Barclay will speak on "The Distribution of Anticancer Activity in High Plants;" and Mr. Richard Spjut will discuss "The Folklore as a Tool in Predicting Sources of Anticancer Drugs." The Symposium, organized by Dr. Perdue, will include 14 speakers and will review an intensive research program in which ARS has played a vital role. Major emphasis will be on the effort to identify drugs of plant origin that may be useful in chemotherapy of cancer. Attention will also be given to carcinogenic and co-carcinogenic plants, exclusive of tobacco.

New Book Publication - Mr. Martin Jacobson, Chief, Biologically Active Natural Products Laboratory, published Agricultural Handbook No. 461 entitled "Insecticides from Plants. A Review of the Literature, 1954-1971." This review covers 1,485 species of plants and is part of a series; its predecessor covering the literature up to 1954 had appeared as Agricultural Handbook No. 154. Mr. Jacobson also edited a book which just appeared entitled "Insecticides of the Future;" it describes the latest developments in alternate methods of insect control such as natural predators and parasites, viruses, sterilization, sex pheromones, and morphogenetic agents.

"Visualization of the Atomic Absorption of Mercury Vapor by Use of a Fluorescent Screen" (J. Chem. Educ. 1972), a paper by Dr. Robert J. Argauer, Analytical Chemistry Laboratory, AEQI, has been reprinted in a book of selected papers titled "Mercury Poisoning" by Mayz et al. that deal with the analysis and detection of mercuric compounds in the environment.

Seventh Annual Air Pollution Workshop - Drs. R. K. Howell and H. E. Heggestad, Air Pollution Laboratory, AEQI, attended this workshop April 7-9. About 75 researchers from the United States and Canada spent three days discussing research results involving air pollutants and vegetation. The workshop was hosted by the Tennessee Valley Authority, Muscle Shoals, Alabama. This year there was increased participation by scientists from the new Energy Research and Development Agency. The agency is concerned now with a broad spectrum of pollutants and has added several scientists to their staff, primarily at the National Atomic Energy Commission laboratories. The next workshop will be at the National Ecological Research Laboratory, EPA, Corvallis, Oregon.

"Water: A Renewable Resource," is the title of a course being taught at the University of Maryland by George H. Comer, Hydrograph Laboratory, PPhI. Mr. Comer was invited to teach the 3-semester hour course to 27 undergraduate students by Dr. W. L. Harris, Chairman of the Agricultural Engineering Department.

Honors and Awards

Dr. Patricia Sarvella, Field Crops Laboratory, PGGI, has been selected "Woman of the Month" in the category Scientific Technology by the Prince George's County International Women's Year 1975 Task Force.

Golden Shovel Award - The Animal Production and Management Unit, API, was declared the winner of the Institute's annual April Cleanup Campaign. Accordingly, the name of the unit will be added to the Institute's Golden Shovel Award plaque. This is the second time the AP&M unit has received the award since the competition was inaugurated in 1970. The Institute Chairman joins the ad hoc Cleanup Inspection Committee in commending the entire AP&M crew for their excellent job in keeping the Institute's grounds and animal facilities in such fine shape.

Invited Papers and Talks

Mr. V. E. Adler, Biologically Active Natural Products Laboratory, AEQI, presented an invited seminar on "Electrophysiological Approach to Attractants and Repellents for Insect Control" before a class in Agricultural and Natural Resources Science at Delaware State College, Dover, Delaware, March 4.

Mr. Martin Jacobson, Chief, Biologically Active Natural Products Laboratory, AEQI, presented an invited seminar on "Chemistry and Practical Use of Insect Sex Pheromones" before students and faculty of the Departments of Chemistry and Biology, University of Maryland, Baltimore Campus, April 7. He also appeared on the USDA television program "Down to Earth," where he was interviewed about his work with insecticidal plants.

Soilborne Disease Lectures - Dr. G. C. Papavizas, Chief, Soilborne Diseases Laboratory, PPI, visited with staff and students at the Department of Botany and Plant Pathology, Purdue University, April 16-18. He presented the Purdue Wright Lecture on "Survival of Soilborne Plant Pathogens." He also spent an informal two hour session with graduate students. Also in April, Dr. Papavizas was invited by the New York State Agricultural Experiment Station, Geneva, to give a lecture on soilborne plant pathogens.

Quantitative Thin Layer Chromatography Symposium - Mr. Melvin E. Getz, Analytical Chemistry Laboratory, AEQI, presented an invitational paper entitled "The Quantitative Determination of Carbofuran and Some of Its Metabolites by Thin Layer Chromatography and Optical Scanning" at this Symposium, held at the Pittsburgh Conference in Cleveland, Ohio, March 5. Mr. Getz has also been invited to be a lecturer at the Kontes Company sponsored short courses, "An Introduction to Quantitative Thin Layer Chromatography" at Cambridge, Massachusetts, March 25 and 26 and at College Park, Maryland, May 28 and 29.

Putting Research To Work

Release of New Cigar Tobacco - The dominant aurea tobacco mutant Su/su and its wild-type sibling su/su are being released to plant scientists, experiment stations, and other research organizations for research and breeding purposes. Seed first was distributed in 1962 after the discovery of the mutant and is being made available for genetic and physiologic studies of photosynthetic efficiency and chloroplast development. Also being released is ozone-susceptible cigar-wrapper breeding line Bel-W3. Seed was first distributed in 1959 soon after the discovery of ozone-sensitive plants in the commercial cigar wrapper cultivar CCC-W3. Because of occasional reports of variability in the display of symptoms during air pollution research, ARS scientists reselected Bel-W3 for 6 generations to achieve stability in the expression of symptoms. Seed for current release meets the uniformity and stability requirements sought by continued selection.

Visitors From:

Canada - Three insect taxonomists from the Biosystematics Research Institute, Agriculture Canada, Ottawa, visited the Systematic Entomology Laboratory, IIBIII, for a week in mid-March. Dr. E. C. Becker studied click beetles in the National Collection and conferred with Mr. T. J. Spilman of SEL on problems of identification and classification in this group. Dr. D. M. Wood consulted with the scientists of the Diptera Research Group of SEL on matters relating to a manual of the Diptera (flies) of North America being prepared by the Biosystematics Research Institute and Dr. W. R. M. Mason visited Dr. P. M. Marsh in connection with research on parasitic wasps.

Germany - Mr. Walter R. Rossmann, Frankfort, visited BARC on April 1. He has worked for many years in research with swine, beef, and dairy cattle. He toured the east side of the Center, and said he was pleased at last to be able to visit the Center after following its progress in animal science research through the literature for 30 years. Mr. Rossmann was accompanied by his host in the U.S., Mr. St. Aubins, Statistician with the Department of Defense.

Bulgaria - Dr. Kalyanov, Agricultural Attache from the Bulgarian Embassy, met with Drs. Frobish, Non-Ruminant Nutrition Laboratory, and Georing, Ruminant Nutrition Laboratory, NI, to discuss animal feed formulation and sources of equipment, and with Dr. Brooks, NPS, and Dr. Scott, Fruit Laboratory, to discuss marketing of strawberries by the "pick-it-yourself" method.

Japan - Mr. Matsumoto, Tokyo University of Agriculture and Technology, visited with Drs. Carlson and Liu and Mr. Kleuter of the Light and Plant Growth Laboratory, and Drs. Hardenburg and Anderson of the Horticultural Crops Marketing Laboratory. Mr. David Morgan, Visitor Service, showed him the facilities at the Energy Metabolism Laboratory of the Ruminant Nutrition Laboratory. Mr. Matsumoto's main interest was in controlling and measuring atmospheric gases in growth chambers.

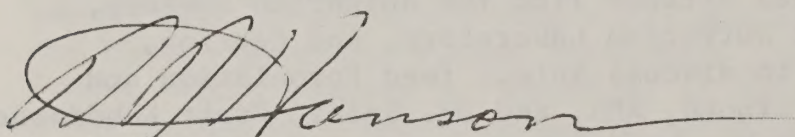
Egypt - Dr. Mahmoud Hafez, Department of Entomology, Cairo University, visited the laboratories of Dr. Robbins, Insect Physiology; and Dr. Borkovec, Insect Chemosterilants, on April 7. April 8 he visited with Mr. L. G. Pickins, Chemical and Biophysical Control Laboratory, and Dr. W. Nickle, Nematology Laboratory.

Mali - Mr. Tounkara, Chief of Cabinet of Ministry of Production and Agriculture, Mali, visited BARC on April 7. He discussed organization at BARC and the research program with Dr. Weir, and then visited with Dr. Craddock to arrange acquiring oat varieties for testing in Mali; Dr. Oakes, for rice varieties; and discussed possibility of growing soybeans with Dr. Leffel.

Jordan - Mr. Edouni, Chief, Animal Health Institute of Jordan, visited BARC the week of April 6. He visited with Dr. Van Ness, APHIS, and Dr. Enzie, Animal Parasitology Institute; Drs. Bond, Lynch, and Reynolds, Ruminant Nutrition Laboratory, NI, and Drs. Ono and Cross of the Meat Science Research Laboratory, AMRI. Dr. Edouni is touring the United States for two months as an FAO Fellow studying administration methods of government and private veterinary diagnostic and investigational laboratories. The main purpose of his visit to BARC was to establish contacts that might assist him in solving future problems that may arise in animal and meat production in Jordan.

Yugoslavia - Dr. Ivan Balzar, Institute for Animal Nutrition and Feed Technology, University of Zagreb, visited BARC on April 7 and 9. He met with Dr. J. Velasco, Seed Quality Laboratory, AMRI, and with Dr. R. J. Davey, Non-Ruminant Nutrition Laboratory, NI. Dr. Balzar is concerned with identification of toxic metabolites of certain molds and aflatoxin in livestock feeds in Yugoslavia.

California - Mr. Jack Hall, Division of Biological Control, University of California, Riverside, spent March 3-21 with the Systematic Entomology Laboratory, IIBIII, as a participant in the SEL Visiting Scientist Program. Mr. Hall extensively revised the National Collection of Bombyliidae (parasitic flies), thus greatly improving its use as a basic identification tool, and conducted taxonomic research on southwestern U.S. beeflies.



A. A. Hanson
Director, BARC

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NOTES FROM THE DIRECTOR

No. 52

May 15, 1975

Employee Activities

Laboratory Chief Appointment - Dr. J. R. Plimmer has been named Chief of the Organic Chemical Synthesis Laboratory, AEQI, following the retirement of Dr. Morton Beroza. Dr. Plimmer, a native of England, received his B.A. in chemistry from Dublin University (Trinity College) in Ireland, and received his Ph.D. in organic chemistry from Edinburgh University, Scotland. He is known both nationally and internationally as an expert in the field of organic pesticide chemistry. His principal areas of specialization are organic chemical synthesis, analytical organic chemistry, and mass spectrometry. He has served or is presently serving, on numerous important committees in the pesticide chemical field. Our congratulations to Dr. Plimmer on his appointment.

Environmental Meetings - Dr. P. C. Kearney, Pesticide Degradation Laboratory, and Dr. A. W. Taylor, Agricultural Chemicals Management Laboratory, attended meetings in Baton Rouge, Louisiana, at the invitation of the Louisiana State University and Louisiana State Department of Agriculture to discuss several environmental issues rising from the Louisiana State Petition for the use of DDT to control tobacco bud worm in the cotton crop in Louisiana this year. The meeting included an inspection of the cotton growing areas in the Red River and Mississippi River areas of the state using an aircraft provided by the State Department of Agriculture.

The Refrigeration Research Foundation - Dr. R. E. Hardenburg, Horticultural Crops Marketing Laboratory, AMRI, spent May 4-6 discussing research results and participating on panels of the Scientific Advisory Council of the Refrigeration Research Foundation in Coronado, California. The Foundation met jointly with the 84th Annual Meeting of the International Association of Refrigerated Warehouses.

Air Pollution Workshop - Dr. R. K. Howell of the Air Pollution Laboratory, AEQI, participated in an Air Pollution Workshop at East Lansing, Michigan. The purpose of the Workshop was to train personnel of the Michigan Department of Natural Resources and the Michigan Air Pollution Control Administration on the effects of air pollution on vegetation and how to separate air pollution injury from that caused by drought, insects, plant pathogens, herbicides, and nutritional disorders. While there, he also gave a seminar to the faculty and graduate students in the Department of Botany and Plant Pathology on "Current Research on Air Pollutants and Estimating Their Impact on Yields and Growth of Crops."

Smithsonian Exhibit - Mr. David Knox, Bioenvironmental Bee Laboratory, PPI, has cooperated with the Smithsonian Institution on an observation beehive exhibit.

Invited Talks

Dr. H. Marc Cathey, Ornamentals Laboratory, PGGI, gave a presentation at the Joint Dinner Meeting of the Roadway Lighting Forum and Illuminating Engineering Society, Chicago Section, recently. His talk concerned the impact of various light sources on plant material.

Beekeepers Association Meeting - Elton Herbert and Thor Lehnert, Bioenvironmental Bee Laboratory, PPI, presented talks and demonstrations at the Spring Meeting of the Maryland State Beekeepers Association in cooperation with the Maryland Cooperative Extension Service.

Genetics Conference Workshop - Dr. R. E. Pearson, Genetics and Management Laboratory, APGI, presented a discussion of a dairy cattle selection program including traits in addition to milk production to the Genetics Conference and Workshop of Midwest Breeders Cooperative at Wasau, Wisconsin. While in Wisconsin he also presented an informal seminar to the animal breeding graduate students and staff of the Dairy Science Department, University of Wisconsin, on his research program.

Revegetation - Walter H. Armiger, Biological Waste Management Laboratory, AEQI, presented a paper, "Revegetation of Acid Mine Spoils," before the Interstate Mining Commission Compact, Annapolis, Maryland. Slides were shown of the work in Appalachia (West Virginia and Western Maryland) and also a TV film that has been made on the research work done in Western Maryland. The audience represented all sections of the United States where surface mining is in operation or is contemplated for the future.

Putting Research to Work

Updating Agricultural Handbooks - Several of our Beltsville scientists have received recognition for their expertise in that Dr. Ralph J. McCracken, Associate Administrator, ARS, has requested them to take responsibility for the updating of the following Handbooks: J. Feldmesser and H. M. McGrath, PPI, for AH-378, Guidelines for the Chemical Control of Plant Diseases and Nematodes; L. L. Danielson, AEQI, for AH-447, Guidelines for Weed Control; and J. W. Neal, Jr., PGGI, for AH-452, Guidelines for the Use of Insecticides to Control Insects Affecting Crops, Livestock, Households, Stored Products, Forest and Forest Products.

Solar Energy Research

Dr. Paul Thompson, Genetics and Management Laboratory, APGI, Dr. Landy Altman, Energy Research Coordinator, NPS, and Mr. Bill Cherry of Energy Research and Development Administration (ERDA), toured the BARC milking parlor and discussed Dr. Thompson's ERDA-funded project for solar heating and cooling this facility. Dr. Thompson was also requested to prepare a proposal for a photovoltaic conversion experiment which could also be conducted at the milking parlor.

Visitors From:

Poland - Dr. H. K. Skapski, Horticulturist from the University of Warsaw, visited the Pesticide Action Laboratory, AEQI, to discuss ongoing PL-480 research related to the long-term use of herbicides in vegetable crops with particular emphasis on crop quality. During his visit Dr. Skapski also discussed related research with members of the Plant Physiology Institute.

Scotland - Dr. Ian Wilmut, Animal Physiologist from the Agricultural Research Council, Edinburgh, visited the Reproduction Laboratory and presented a seminar on "Embryo preservation in cattle, sheep, swine, and mice." Dr. Wilmut's report of successful freeze preservation of cattle and mice embryos while a post-doctoral fellow at Cambridge University was a first for those species. He visited with Drs. Johnson, Pursel, Guthrie, Hawk, Rexroad, and Bolt of the Reproduction Laboratory; Drs. Miller, Pearson, and Bereskin of the Genetics and Management Laboratory; and Drs. Gerrits and Terrill of the National Program Staff, concerning reproductive and genetic problems associated with embryo preservation and transplantation.

Egypt - Dr. M. K. Zahran, a Plant Physiologist from the Agricultural Research Center, Cairo, visited with the personnel of the Pesticide Action Laboratory. Dr. Zahran has been conducting weed control research in Egypt for more than 30 years. The purpose of his visit was to discuss problems and findings related to a PL-480 project concerned with the control of broomrape and dodder in various crops.

Regional Coordinators - Coordinators for the four Regional Plant Introduction Stations spent April 16 conferring with Howard Hyland, George White, Jack Oakes, and Harold Winters of the Germplasm Resources Laboratory on operational procedures for handling plant germplasm. The coordinators, S. M. Dietz, Pullman, Washington; D. D. Dolan, Geneva, New York; W. R. Langford, Experiment, Georgia; and W. H. Skrdla, Ames, Iowa, also participated in the second meeting of the National Plant Germplasm Committee in Washington, D. C., together with Mr. Hyland and Dr. White. Mr. Hyland was added to the membership of that committee.

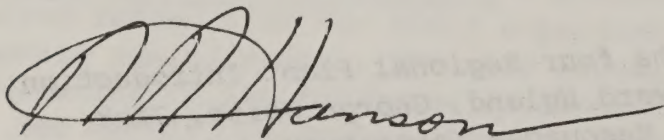
Business Week Magazine - Mr. Robert P. Dorang, correspondent doing an article on agricultural research for Business Week magazine, made a tour of BARC recently. He has had interviews with several scientists while researching the article. He also decided to include a segment on pest control and will probably be returning to BARC for additional information.

Biographical Sketch

Ms. Anne M. Chute, Zoologist, Histoprotzoan Diseases Laboratory, API, was born in Takoma Park, Maryland, and received her B.S. and M.S. from the University of Maryland. She joined ARS as a Laboratory Helper in 1965 and became a Biological Laboratory Technician at Beltsville in 1966 following the completion of her B.S. degree.

Her personal research on histomoniasis (blackhead) of gallinaceous birds has included determination that Histomonas meleagridis can survive freeze preservation, assessing potential of birds for soil contamination with Histomonas-bearing eggs of Heterakis gallinarum, elucidating interrelationships between the survival and development of Heterakis gallinarum and the liberation and transmission of Histomonas meleagridis, characterizing the responses of the guinea fowl to experimental and naturally acquired infections with Histomonas meleagridis and Heterakis gallinarum, and demonstrating that artificially limited infections with Heterakis gallinarum of different ages do not stimulate as much immunity as does a continuous infection from hatching to maturity. She has worked with chickens, turkeys, bobwhite, partridges, pheasants, guinea fowl, peafowl, Japanese quail, ducks, and geese.

Ms. Chute is a member of Phi Sigma and Sigma Xi and several professional societies. Her current research emphasis includes testing the effect of chemotherapeutic agents on transmission of Histomonas meleagridis and seeking to clarify the nature of the immunities developed by the definitive host.



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NOTES FROM THE DIRECTOR

No. 53

June 5, 1975

Visit by Members of House Budget Committee - Mr. Benson Simon and Mr. Alan Grommet visited the Center on May 21. Dr. A. A. Hanson took them on a tour during which they had an opportunity to visit with a number of scientists. They were interested in the identification of high priority research and in adjustments that would have to be made to operate within financial constraints.

Employee Activities

New Appointment - Dr. James Iacono has been selected to the post of Deputy Assistant Administrator for Marketing, Nutrition, and Engineering. He will start in his new job this July. Although with this transfer the Nutrition Institute will lose an outstanding Laboratory Chief, we are proud that Dr. Iacono was selected for this responsible position.

"Proteins for Human Consumption" Symposium - Two scientists from the Protein Nutrition Laboratory will participate in a 2-session symposium to be held June 10-11 at the Institute of Food Technology's 35th Annual Meeting in Chicago. In the first session on "Determination of Nutritional Value," Dr. C. E. Bodwell will speak on "Biochemical Indices in Humans;" in the second session on "Factors Affecting Nutritional Value," Dr. David Vaughan, Chief of PNL, will discuss "Processing Effects." The Symposium, organized by Dr. Bodwell and sponsored by the IFT Nutrition Division, will include 11 speakers from the United States and two from foreign countries.

Pathogenesis and Epidemiology of Sarcocystis was the subject of seminars presented by Dr. Ronald Fayer, Animal Parasitology Institute, at the Veterinary School, University of Pennsylvania on May 13 and at the National Animal Disease Center, Ames, Iowa, on May 29, where he also discussed the possibility of a cooperative research project with members of the Microbiology Department.

Editorial Appointment - Dr. Harry Herlich, Chief, Ruminant Helminthic Diseases Laboratory, has been appointed to the Editorial Board of a new international journal, "Veterinary Parasitology," to be published in the Netherlands.

Invited Talks

"Operational Efficiency in Egg Processing" was the title of an invitational paper presented by Clarence E. Harris, Animal Products Marketing Laboratory, to the recent Cor-Ag Symposium at Cornell University, Ithaca, New York. The symposium was sponsored by the Food and Drug Administration, Cornell University, and USDA and its purpose was to report and discuss recent egg marketing research.

Dr. William W. Cantelo, Vegetable Laboratory, at the invitation of the Department of Entomology and Applied Ecology of the University of Delaware, spoke to the students of the Department on means of using insect photo-sensitivity to suppress pest insect populations.

Dr. Charles D. Foy, Plant Stress Laboratory, recently conducted a series of invitational seminars and served as acid soils consultant at the Instituto Colombiana Agropecuarias (ICA) Tibaitata Experiment Station near Bogota and at the ICA and CIAT (Centro Internacional de Agricultura Tropical) Experiment Stations at Cali, Colombia. The subject discussed was "Adapting Plants to Mineral Stress Factors in Problem Soils."

Cooperative Activities

Observation Honey Bee Colonies - The Bioenvironmental Bee Laboratory has assisted in setting up and maintaining observation honey bee colonies in several locations such as Wheaton Regional Park, Prince William Forest Park, Catoctin Mountain Park, and the Smithsonian Institution as part of the Insect Zoo. Reports have been received that these exhibits have consistently proven to be some of the most popular displays for visitors. The entire staff at the Laboratory has been commended by the U.S. Department of Interior for the efforts and expertise so willingly shared.

Exchange Scientist - Under the sponsorship of the United States-Spain Cooperative Research Program, Dr. Jose Tarazona visited the Animal Parasitology Institute May 5 to 23, 1975. Dr. Tarazona is from the Departamento de Higiene y Sanidad Animal, Instituto Nacional de Investigaciones Agrarias, Madrid, Spain. His primary interest was in observing and participating in the varied activities of the anthelmintic research project. He also observed the Institute's research on anaplasmosis and planned a cooperative program for testing cattle for the disease in the Madrid and Badajoz areas of Spain, and was given source materials for transportation back to Spain to be used in the anthelmintic research work there.

Financial Assistance - The Soilborne Diseases Laboratory (SBDL), PPI, and Pesticide Degradation Laboratory (PDL), AEQI, received a \$50,000 1-year grant from EPA. The SBDL will study pesticide-soilborne disease interactions under the direction of Dr. G. C. Papavizas and Dr. J. A. Lewis, and the PDL will study pesticide persistence in soil under the direction of Dr. D. D. Kaufman.

CENTER SAFETY ACTIVITIES

BARC Operation Clean-Up Week, May 12-16, was a job well done! The credit goes to the work force group. They removed accumulated waste materials, surplus materials, and picked up waste chemicals. Our thanks to all BARC employees who participated in the Clean-Up campaign.

In addition, two Prince George's County Fire Marshals presented a film showing and lecture on May 13. The subject of their presentation was "Operation Clean-Up and Fire Safety." The Fire Marshals will be back at a later date to conduct fire extinguisher training sessions.

SAFETY OBJECTIVES

Priorities for the remaining year - Develop programs to provide continuing education and training for all Safety Committee members. Prepare and issue a quarterly Safety Bulletin to all employees, to include some work-related accidents, with corrective follow-up recommendations. Review health problems to which employees are exposed and control such hazards. Encourage Institute Safety Committee members to attend Federal Safety and Federal Fire Council meetings to help improve their knowledge as safety advisors. Work in compliance with AM 450.1 and Occupational Safety and Health Standards. Establish a 24-hour safety training course for BARC Supervisors. Conduct Safety and Health inspections.

Visitors From:

Sweden - Dr. Rolf Henricksson, Director, Institute of Farm Structures Research, Lund, Sweden, met with Dr. L. A. Liljedahl, Physical Control Laboratory, AEQI, to discuss energy conservation research and future wind energy research programs in the United States and Sweden. Dr. Henricksson also visited the Light & Plant Growth Laboratory to review work in progress there relating to plant growth chambers.

Israel - The Animal Parasitology Institute was visited May 28, 1975, by Professor George Witenberg, Hebrew University, Jerusalem. Professor Witenberg visited the Index-Catalogue of Medical and Veterinary Zoology and the National Parasite Collection with Mrs. Shirley J. Edwards and Dr. J. Ralph Lichtenfels. Professor Witenberg is an internationally known veteran of more than 50 years of research in parasitology of animals. He said the Index-Catalogue has been indispensable to his work and that he was very pleased to visit the source of this compendium of parasitological knowledge.

Biographical Sketches

Dr. Madelyn Womack, Protein Nutrition Laboratory, NI, was born in Texas and received her B.S. from Texas State College for Women and her M.S. and Ph.D. from the University of Illinois. Following completion of her Ph.D. she worked at the University of Illinois for twelve years on interrelationships among amino acids in nutrition. She joined ARS as a Biochemist at Beltsville in 1947.

Her personal research has included establishing essential nature of several amino acids; discovery of the "dual nature of the unknown growth essential" which led to the isolation by others of the essential amino acid threonine;

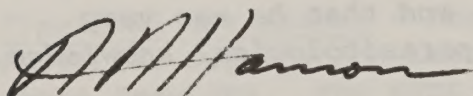
discovery of the essentiality of the amino acid methionine and the relationship between it and the other sulfur-containing amino acid cystine; and she demonstrated with co-workers that type of carbohydrate influenced the utilization of amino acids and fat storage. She has studied the nature of the differences in effects of feeding intact protein vs an amino acid mixture of the same composition, and interactions between type of fat and type of carbohydrate in kidney stone production. She has developed a method for determination of the availability of each individual essential amino acid; has investigated whey and whey products as cereal supplements and the nutritive value of processed breakfast cereals.

Dr. Womack is a member of and has held offices in numerous professional and honorary societies and is currently President of ARCEA.

Ms. Joanna Lehmann, Lipid Nutrition Laboratory, NI, was born in Newport News, Virginia, and received her B.S. from the University of Maryland. She joined ARS as a Chemist at Beltsville in 1956.

Her personal research has included developing an ion exchange method for the separation of the three components of vitamin B₆; developing a method for flame photometric determination of calcium in foods, using a reversed oxyacetylene flame, a radiation buffer, and an acid mixture; analyzing the macro- and micro-mineral element composition of fruits; assisting in the adaptation of a gas-liquid chromatographic method to the analysis of tocopherols in food samples; and developing a method for analysis of tocopherols in micro-samples of sera by gas-liquid chromatography.

Her present research assignment as a member of a team carrying out research on the composition and chemistry of nutritionally important food lipids, is tocopherol chemistry and analyses with emphasis on mutual antioxidant interactions between tocopherols. The research is designed to provide data for estimating the vitamin E content of diets.



A. A. Hanson
Director, BARC

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
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BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 54

June 24, 1975

Proposed Organizational Changes - Program reductions and shifts projected for FY 1976 necessitated proposing restructure of selected Laboratories at BARC. Specifically, to reduce and change the mission of the Biochemistry Laboratory, APCI, with two SMY's to be transferred to other Laboratories; abolish the Nutritional Microbiology Laboratory, NI, with all SMY's to be transferred to several other Laboratories; abolish the Air Pollution Laboratory, AEQI, with all staff transferred to the Plant Stress Laboratory, PPhI, to strengthen research on plant stress phenomena; establish a new Feed Energy Conservation Laboratory, APCI, with staff to be transferred from several Laboratories to improve coordination between animal physiologists and geneticists and animal nutritionists; replace the Biological Waste Management Laboratory, AEQI, with the Biological Waste Management and Soil Nitrogen Laboratory, AEQI, to combine waste management and soil nitrogen research; replace the Plant Nutrition Laboratory, PPhI, with the Cell Culture and Nitrogen Fixation Laboratory, PPhI, to better define the research; transfer the Physical Control Laboratory from AEQI to PPhI, to improve communications relative to energy and light-related research; and transfer swine breeding research from the Genetics and Management Laboratory, APCI, to the Non-Ruminant Animal Nutrition Laboratory, NI, to consolidate the research management of swine operations. Also some internal realignments will shift the abattoir to the Meat Science Laboratory, AMRI, and the Animal Operations to the Director's Office.

Special Scientific Collections

A number of unique Collections have been established and are maintained at BARC and fulfill special needs. Their support of research extends beyond BARC, not only throughout the U.S. but around the world. Periodically, these Collections will be highlighted in the Notes.

USDA Nematode Collection, PPI - Established in 1960, it is now one of the largest and most valuable in existence. Still growing rapidly, it presently contains about 17,500 permanent slides and vials of nematodes from the U.S. and world-wide sources. These are arranged into six constituent divisions and a seventh division, Sample Records, provides extensive data on nematode hosts, occurrence, and distribution. In addition, several thousand slides of nematodes accumulated by earlier USDA nematologists are gradually being reworked and incorporated into this Collection. Of special value is one of the divisions which contains the designated type specimens of about 700 species of nematodes, serving as the final point to taxonomic reference. Though containing mainly plant and soil nematodes, the Collection

has other kinds of related nematodes including many species of mermithids which parasitize insects. Both U.S. and foreign scientists, through loan of specimens and visits to Beltsville, use this Collection extensively for taxonomic research and reference purposes. Thus, the Collection is a significant factor in stabilizing and advancing nematode research.

Special Programs

Several unique programs are conducted at BARC designed to fulfill special research needs. Generally, these programs are not conducted at other ARS locations. One of these Programs is:

Medicinal Plants (Cancer Program), PGGI - During the past 15 years, through this program, ARS has played a vital role in a cooperative effort with the National Cancer Institute to identify drugs of value in chemotherapy of cancer. The cancer program is now the prime responsibility of the Medicinal Plant Resources Laboratory. ARS botanists have supplied 44,000 plant materials for preliminary anticancer screening, for chemical fractionation to isolate and identify potentially useful chemical agents, and as sources of the large quantities of individual drugs selected for preclinical and clinical evaluation. Crude extracts of 2,200 species of higher plants have significantly inhibited cancer growth in laboratory animals. Almost 500 pure compounds have been isolated and identified. Of these, 11 compounds have been selected for preclinical pharmacological evaluation in preparation for clinical evaluation in human patients. Outstanding among these are maytansine, triplolide, bruceantin, nitidine, and indicine-N-oxide.

Recent Research Accomplishments

Mastitis Research - Scientists at the Genetics and Management Laboratory, APCI, have demonstrated the infection of a healthy dairy cow with mastitis following impact of droplets resulting from an abrupt drop in the vacuum in one teat cup of a milking machine claw. The problem was corrected by designing a new type of short milk tubing that will scatter the milk and air droplets and prevent backsplash against the teat avoiding droplet-induced mastitis. In related research, milk machines were modified to automatically apply a disinfectant directly from within the teat cup after milking and then wash themselves out. Results showed that the automatic method of application is just as effective in preventing new mastitis infections as the hand dipping method with no significant carryover of disinfectant or wash water into the milk.

Employee Activities

Radio Tapes - Jack Murray, Field Crops Laboratory, PGGI, recently prepared three radio tapes on lawn care. The subjects covered were watering, mowing, and liming.

EMPLOYEE ACTIVITIES (Continued)

Lowell E. Campbell, Agricultural Equipment Laboratory, PPHI, served as cochairman of a forum entitled "Is Energy Conservation Compatible with Greenhouse Operation," at the January 31 meeting of the American Society of Heating, Refrigeration, and Air Conditioning Engineers, held at Philadelphia, Pennsylvania.

Charles D. Foy, Plant Stress Laboratory, PPHI, presented an invitational paper entitled "Adaptation of Crops to Acid Subsoil Conditions," at a USDA-SEA Workshop on "Soil-Nutrient-Water Management for Cropping Systems in the Southeast," held at Atlanta, Georgia, February 13-15. Dr. Foy also served on a panel to develop research priorities regarding soil acidity--"Nutrient Interrelationships in Southeastern Soils."

COOPERATIVE ACTIVITIES

Henry J. Retzer, Agricultural Equipment Laboratory, PPHI, with George Ayers and A. J. Howlett of Michigan State University, Department of Entomology, determined performance characteristics of a recently developed orchard sprayer which is expected to have immediate commercial applications.

Cooperative research of four laboratories in AEQI and PPI resulted in discovery of a new feeding deterrent for house flies. The new anti-feedant, a triterpenoid identified as salannin, was isolated from seed of the neem tree of India. Neem extracts have been used as a source of insect antifeedants and growth regulators for over a decade in India. Cooperators in the study include: J. David Warthen, Jr. and Edward C. Uebel, Biologically Active Natural Products Laboratory, AEQI; Samson R. Dutky, Insect Physiology Laboratory, PPI; William R. Lusby, Pesticide Degradation Laboratory, AEQI; and Harold Finegold, Analytical Chemistry Laboratory, AEQI. Neem seeds were obtained from India by the International Programs Division. The results were published in ARR-NE-2.

The Vegetable Laboratory, PGGI, has received word that a major vegetable processor has developed an anthracnose-tolerant tomato variety with resistance derived from P.I. 272636. Resistance in this introduction was found by Thomas H. Barksdale. The variety has been grown commercially for the past 2 years.

DEATH OF RETIRED BARC SCIENTIST

William N. Sullivan, retired scientist with the Chemical and Biophysical Control Laboratory, AEQI, passed away on March 2. Dr. Sullivan was a well known and respected Research Entomologist in the aircraft disinsection field. He was the coinventor of the aerosol bomb, and during the 4 years before his retirement in June of 1978, he was involved in the development and evaluation of new propellant systems which would not damage the ozone layer. During his career, he published more than 150 scientific papers. He had been an employee of the U.S. Department of Agriculture since 1931.

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NOTES FROM THE DIRECTOR

No. 58

August 21, 1975

New Institute Chairman - Dr. Harold S. Ricker has been selected to become Chairman of the Agricultural Marketing Research Institute effective September 1.

Laboratory Name Change - The Physical Control Laboratory which was recently transferred from AEQI to PPhI, has been renamed the Agricultural Equipment Laboratory.

Production Key Word - Production was the key word that emerged from the recent Working Conference to Meet U.S. and World Food Needs held in Kansas City, Missouri, July 9 to 11. The nation's most urgent agricultural research need is to find ways to grow more food while using less energy. The top five priorities are--energy for production--increased soybean production--more efficient use of water for agricultural production--research on basic problems in plant growth and production--and, determine the nutrient requirements of people.

BARC Included in Management Improvement Report - The Joint Financial Management Improvement Program in its Annual Report to the President and the Congress entitled "Productivity Programs in the Federal Government FY 1974, Volume Two: Case Studies, reports on BARC. Chapter 13, Increasing Productivity in Facilities Maintenance Management in the Department of Agriculture is the case study of the work measurement/management system implemented by the Division of Operations.

BARC EEO Committee - John Comeau, NER Personnel Branch, has replaced Len Emerson as representative of the Personnel Branch. Len had previously replaced Robert H. Cross, who was listed in our committee directory.

Peak Oxidant Concentrations - On July 31, 1975, photochemical oxidant (ozone) reached the highest level observed in several years and perhaps the highest ever recorded at Beltsville. The hourly average concentration of 23 parts per hundred million (pphm) was reached between 4:30 and 5:30 p.m. EST. At about the same time, Silver Spring had the highest air pollution index for the Metropolitan Area, i.e. -175, which can be converted to about 25 pphm ozone as an hourly average. Considerable new leaf injury was noted on sensitive varieties of snap beans and other species in greenhouses and the field.

On the Eastern Shore of Virginia at Painter, where we are measuring oxidants in connection with potato studies, the oxidant concentrations were only slightly less than at Beltsville and perhaps the highest measured at that location.

Death - We were saddened to learn that James R. Jones, Motor Vehicle Operator for the Building Services Section of the Division of Operations, passed away July 14. Mr. Jones had been an employee at the Center for 23 years. His wife, Jeanette, is also an employee in the Division of Operations.

Recent Research Accomplishments

Lambs grow well on diets containing poultry wastes - Lambs were fed complete pelleted diets containing either alfalfa meal or dried poultry manure as protein supplements. Tests in the Ruminant Nutrition Laboratory, NI, showed that lambs on rations containing the dried poultry manure gained in body weight as well as those fed alfalfa meal. Diets containing the poultry manure costs 16 percent less.

Experimental treatment improves sheep fertility - Scientists in the Reproduction Laboratory, APGI, injected ewes with different levels of estradiol, a natural estrogen compound, four hours before mating or shortly after mating. Tests showed that 30 micrograms of estradiol per ewe increased the number of sperm transported from the vagina to the cervix by three-fold and by ten-fold the number found in the uterus and oviducts.

Employee Activities

Zoologist visits Spain - Dr. Kenneth C. Kates, Ruminant Helminthic Diseases Laboratory, API, spent a week at the Instituto Nacional de Investigaciones Agrarias under the auspices of the National Science Foundation. He visited informally with the veterinary staff and discussed research problems of mutual interest. Two formal seminars were presented to the entire faculty of the Institute. His subjects were "The organization, facilities, and research programs of the Animal Parasitology Institute and recent work on anthelmintic resistant strains of ruminant nematodes" and "Life cycles and pathogenic effects of selected helminth and protozoan species investigated at the Animal Parasitology Institute." Dr. Kates found the parasitology staff well trained, but due to severe financial constraints, very limited in their research activities.

Cornell Seminars - Dr. Charles D. Foy, Plant Stress Laboratory, PPhI, and Dr. Ady da Silva and Mr. Wilson Soares, collaborating scientists from Brazil, recently conducted a series of invitational seminars in the Plant Breeding Department of Cornell University at Ithaca, New York. Dr. Foy spoke on "Adaptation of plants to mineral stress factors in acid soils," Dr. da Silva discussed "Crop adaptation and breeding for acid soils in Brazil," and Mr. Soares' topic was "Latest developments in a research program for the 'Cerrado' Region of Brazil.

W-102 Technical Committee - Dr. Francis G. Tromba, Chief, Non-Ruminant Helminthic Diseases Laboratory, recently attended the W-102 meeting in Anaheim, California, as representative from the Animal Parasitology Institute. This Technical Committee meets annually to discuss recent research progress on biological control of internal parasites in food producing animals. Dr. Tromba is the newly elected secretary of the W-102 Technical Committee.

Laboratory Chief cited in book - The research activities of Dr. Robert E. Perdue, Chief, Medicinal Plant Resources Laboratory, PGGI, were included in the publication Cancer Lab, Scientists at Work. Thousands of scientists are waging an all-out war against cancer. The goals of these scientists are to increase their understanding of this dread disease and to develop new and better methods of prevention, detection, and treatment. Dr. Perdue's role in plant collection and chemical extraction is a vital part of the total war against cancer.

Insect Pest Control and Human Health - Dr. A. B. Borkovec, Chief, Insect Chemosterilants Laboratory, AEQI, presented a paper on the Control and Management of Insect Populations at a conference on Human Health Effects of New Approaches to Insect Pest Control in Durham, North Carolina, on August 5, 1975. The conference was sponsored by the National Institute of Environmental Health Sciences and the Environmental Protection Agency.

Laboratory Chief Visits Israel - Mr. Martin Jacobson, Chief of the Biologically Active Natural Products Laboratory, AEQI, attended the 25th Congress of International Union of Pure and Applied Chemistry (IUPAC) in Jerusalem, Israel, where he presented an invited paper entitled "Stereochemical Aspects of Mating Attraction and Inhibition in Heliothis zea and H. virescens" before the Organic Section on Stereochemical Aspects of Biogenesis. He also chaired a session in the Medicinal Chemistry Section on Biological Receptors. Following the Congress, he spent a week assisting personnel of the Ministry of Agriculture in extensive cooperative pest attraction studies in cotton and alfalfa fields of the Upper Galilee, and conferred with scientists at the Institute for Biological Research (Ness-Ziona), the Volcani Institute (Rehovot), and Ben Gurion University of the Negev (Beersheva) on present and future cooperative programs.

Cooperative Activities

Marketing Facilities for Stockton, California -- The feasibility of conducting a study to determine the need for new assembly and shipping facilities in the Stockton, California, area was discussed in a meeting of the San Joaquin County Economic Development Association on July 23. J. N. Morris, Jr., Food Distribution Research Laboratory, AMRI, and C. Max Harris and R. Tom Hinsch, Market Quality and Transportation Research Laboratory, Western Region, attended the meeting at the Association's request to provide technical advice.

Honors and Awards

Quality Within Grade Increases

Meyer Schwarz, Biologically Active Natural Products Laboratory, AEQI

Rolland M. Waters, Biologically Active Natural Products Laboratory, AEQI

Marguerite E. Kincius, Protein Nutrition Laboratory, NI

Cash Awards

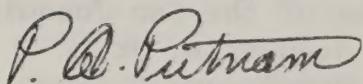
Cissel L. Archer and William H. Cockran, Division of Operations, for their suggestion for installation of controls and time clocks to boilers to enable them to operate at a high pressure during working hours and a lower pressure on nights, weekends, and holidays.

Visitors

Germany - Dr. Hans Honig, Institute for Grassland, Forage Production and Forage Conservation, Agriculture Research Center, Braunschweig, recently visited with Drs. H. K. Goering, D. A. Dinius, and P. W. Moe, Ruminant Nutrition Laboratory, NI. The purpose of his visit was to become acquainted with research and methods used for forage preservation and feed value.

Kenya - Dr. George Corry, Director of the East African Veterinary Research Organization, Muguga, visited the Animal Parasitology Institute, while on a recent tour of agricultural research institutes in this country. The major disease of cattle in East Africa is East Coast Fever, a tick-borne protozoan parasite. Dr. Corry visited with scientists at API and discussed the immunological aspects of his research on East Coast Fever.

Pakistan - Dr. Mohammad Ashraf, Atomic Energy Agricultural Research Centre, Tandojam, visited with M. Jacobson, V. E. Adler, and M. Schwarz, Biologically Active Natural Products Laboratory, AEQI, following a year of work on radioactive sterilization of fruit flies at the USDA Hawaiian Fruit Flies Laboratory, Honolulu and Hilo. The Beltsville discussions were concerned with the effects of attractants and growth regulators on insect pests.



P. A. Putnam
Acting Director, BARC

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BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 60

September 18, 1975

BARC Plans Joint EEO and IWY Program

International Women's Year - Three years ago, the United Nations General Assembly passed a resolution declaring 1975 International Women's Year. The three specific objectives of IWY are--to promote equality between men and women--to ensure the full participation of women in all aspects of national and international life--and, to recognize the contribution of women to the promotion of friendly relations and cooperation among nations and to world peace.

EEO Awareness Week - The week of September 29, 1975, is designated as EEO Awareness Week in the Department of Agriculture. Special activities have been planned in the Washington, D.C. metropolitan area during this Week to focus attention on the Department's Equal Employment Opportunity Program and to provide employees with information on their rights and responsibilities under the EEO Program. Field installations are also encouraged to plan appropriate activities during this Week. All employees are urged to take advantage of this opportunity to learn more about the Department's EEO Program. As President Ford recently pointed out, "Our Nation's strength is based upon the concept of equal opportunity for all our citizens."

Secretary Butz has suggested that "During EEO Awareness Week, we should renew our commitment to equal opportunity in USDA and seek new ways to translate that commitment into results."

BARC Program - A special program will be held October 1, 2, and 3. The main program will be in the BARC Auditorium on October 1, with speakers and a panel of women from Beltsville who will discuss their careers, citing some things that have hindered or helped them. There will be 4 workshops. Although it is a celebration of the Women's Year, it is open to all employees--"What's good for women is good for men." Subjects for the workshops include how to improve your 171, career development, assessing yourself, and assertiveness training. The notice to all employees will urge participation on official time.

This program will be the Special Event at BARC in support of both International Women's Year and EEO Awareness Week.

New Committees Established

Four new committees have been established at BARC to function in the area of animal care. Each committee has responsibility for advising scientists, research leaders, and all levels of management in matters pertaining to care, humane treatment, and use of laboratory animals and livestock in

the indicated research programs. These committees should meet at least quarterly and as called by the Chairman to develop and maintain active progressive animal care programs. At least annually, (February-April) the Committees should inspect all animal facilities and make a comprehensive report on the status of animal care to the Director and Institute Chairmen. Beginning with standards currently being developed by the small working groups established in February, the Committees will develop programs to insure attainment of desired standards. All Committee members are expected to contribute to the fullest extent of their knowledge in questions brought before the Committee. In addition, it will be incumbent upon Committee members with specialized expertise to serve as resource persons providing the Committee with recommendations and background justification as appropriate. When problems are encountered requiring expertise in disciplines or fields of study not adequately represented by Committee members, the Committees are expected to solicit assistance. Dr. Wayne M. Frerichs, Veterinary Medical Officer, Animal Parasitology Institute, and Dr. I. Peterson, Veterinary Medical Officer, Animal Physiology and Genetics Institute, will serve as consultants to the Committees as needed.

The four Committees are:

API Animal Care

Chairman: W. M. Frerichs, Haemoprotozoan Diseases Lab., API
 Secretary: T. O. Roby, Chief, Haemoprotozoan Diseases Lab., API
 D. K. McLoughlin, Histoprotozoan Diseases Lab., API
 Ex Officio: F. D. Enzie, Chairman, API

Dairy Animal Care

Chairman: N. W. Hooven, Assistant to the Director
 Secretary: P. M. Sears, Research Veterinarian, APCI
 H. F. Tyrrell, Ruminant Nutrition Lab., NI
 R. H. Miller, Chief, Genetics & Management Lab., APCI
 H. W. Hawk, Chief, Reproduction Lab., APCI

Meat Animal Care

Chairman: L. T. Frobish, Chief, Non-Ruminant Animal Nutrition Lab., NI
 Secretary: T. L. Pike, Staff Veterinarian, APCI
 R. R. Oltjen, Chief, Ruminant Nutrition Lab., NI
 L. A. Johnson, Reproduction Lab., APCI
 N. W. Hooven, Assistant to the Director

Poultry and Laboratory Animal Care

Chairman: H. Opel, Avian Physiology Lab., APCI
 Secretary: T. L. Pike, Staff Veterinarian, APCI
 R. J. Lillie, Non-Ruminant Animal Nutrition Lab., NI
 H. Cecil, Avian Physiology Lab., APCI
 C. Kiddy, Reproduction Lab., APCI
 M. Womack, Protein Nutrition Lab., NI
 N. W. Hooven, Assistant to the Director

Committee Membership - Membership of the Forage Research Committee has been reduced by one with the departure of C. S. Garrison, Seed Quality Laboratory, AMRI. No replacement has been named at this time.

International Atomic Energy Agency Fellow - Dr. Faisal Abdel Gadir from Sudan, has come to the Animal Parasitology Institute for 9 months as an International Atomic Energy Agency Fellow. He will be working with Drs. Frerichs and Allen on the Equine Piroplasmiasis project of the Haemoprotozoan Diseases Laboratory, studying the intermediary metabolism of babesia species through the use of isotopically labeled compounds.

Service Available - A Varian HA-100 (100 MHz) Proton Nuclear Magnetic Resonance Spectrometer located in the Analytical Chemistry Laboratory Annex (Bldg. 309) has been repaired and placed back in service after a 2-year "vacation." The user, Mr. Harold Finegold, has set up a system for providing various levels of Nuclear Magnetic Resonance service or collaborative research to all BARC scientists based on a "Research Service Unit" concept. For details and/or copies of the Request Form call Mr. Finegold on extension 42531.

Employee Activities

Insect Taxonomist Makes National Observer - Dr. Arnold S. Menke, Systematic Entomology Laboratory, IIBIII, was interviewed in an article in the August 30 issue of the National Observer. The article concerned the spread of the yellow jacket Vespula germanica, a European wasp recently found in the northeastern U.S. which nests in walls and attics of houses. Dr. Menke had recently written a paper for the Cooperative Economic Insect Report detailing the differences between this and other yellow jackets.

Scientist Visits California and Canada - Dr. Raymond J. Gagne, Systematic Entomology Laboratory, IIBIII, spent several days at the California Academy of Sciences in San Francisco surveying the collection of gall midges and fungus gnats needed for systematic revisions. Dr. Gagne then participated in the joint meeting of the Botanical, Entomological, and Phytopathological Societies of Canada in Saskatoon, Saskatchewan, where he presented a paper entitled "The Econogy and Systematics of the Gall Midges of Sagebrush in Idaho."

Lepidopterists' Meeting - Drs. Douglas C. Ferguson and Ronald W. Hodges of the Systematic Entomology Laboratory, IIBIII, attended the 26th annual meeting of the Lepidopterists' Society at Amherst, Massachusetts. Dr. Ferguson presented a paper entitled "Catocala: Evolutionary and Systematic Problems" which brought out new correlations between larval food plants and hindwing coloration. Dr. Hodges is the new President of the Society. In his address he emphasized the need for lepidopterists to use caution in proposing species for possible listing on the Department of Interior's Endangered Species List. In particular, detailed information on the distribution and abundance of each species must be known.

Field Research - Dr. A. S. Menke, Systematic Entomology Laboratory, IIBIII, recently completed field research in the western U.S. He was accompanied by Dr. W. J. Pulawski, a Polish scientist visiting this country on a Smithsonian Fellowship and studying with Dr. Menke. Dr. Menke and Dr. Pulawski, who are working on the taxonomy of a North American wasp genus, visited many different ecological situations where collections of wasps critical to their studies were made. The scientists also visited a number of western universities and museums where Dr. Pulawski was able to establish contacts with other scientists, study material, and learn first hand of various techniques used in rearing wasps and bees in the laboratory. During the trip, Dr. Menke spent two weeks in San Francisco curating the wasp collection at the California Academy of Sciences under a cooperative agreement between that institution and USDA.

USDA Graduate School - Dr. M. Lieberman, Chief, Post-Harvest Plant Physiology Laboratory, AMRI, will be Instructor for the USDA Graduate School course "Regulation of Cell Metabolism." The course will be offered on Tuesday evening from 5:00 p.m. to 7:00 in the Seminar Room, Building 007, BARC-West, from September 30 through December 2. The course is designed for students with background in biochemistry and physiology with an interest in cellular regulatory mechanisms. Topics to be considered are: Homeostasis, feedback control, membranes as regulatory structures, allosteric enzymes and allosteric control, control of glycolysis, control of energy metabolism, control at the level of transcription and translation, induction of enzymes, hormones and regulatory control, etc.

Wasp Identified - A chestnut gall wasp, previously known from Japan and Korea, was recently found in Georgia and identified by Dr. Arnold S. Menke, Systematic Entomology Laboratory, IIBIII. The wasp forms galls on stems of chestnuts and is of potential economic importance, according to Plant Protection and Quarantine officials of APHIS.

Invitational Presentations

Dr. Barbara A. Bierl, Organic Chemical Synthesis Laboratory, AEQI, recently presented an invited paper on controlled release formulations of insect attractants and participated in a panel discussion in a workshop on Controlled Release Insecticides and Pheromones at the 1975 International Controlled Release Pesticide Symposium, Wright State University, Dayton, Ohio.

Dr. Sheldon Reiser, Chief, Carbohydrate Nutrition Laboratory, NI, recently presented an invited paper entitled "Effect of Dietary Carbohydrates on Intestinal Transport and Hepatic Enzyme Activity in the Rat" at the 1975 Annual ACS Meeting held in Chicago. The presentation was part of a symposium on the chemistry of food carbohydrates. Dr. Reiser was also asked to participate at a press conference to answer questions pertaining to the research presented.

Honors and Awards

ASA Fellow - Dr. James D. Menzies (retired), formerly Chief of the Biological Waste Management Laboratory, AEQI, was elected a Fellow by the American

Society of Agronomy. His research has covered soil microbiology, plant pathology, and waste management.

Industry Recognition - R. E. Hardenburg, Chief, Horticultural Crops Marketing Laboratory, AMRI, received an engraved plaque from the Refrigeration Research Foundation "In Grateful Appreciation" for unselfish service to the perishable food industry and devotion in the pursuit of knowledge. Dr. Hardenburg is a member of the Scientific Advisory Council of the Foundation, which is the research and education arm of the International Association of Refrigerated Warehouses.

ASA Fellow - John C. Brown, Plant Stress Laboratory, PPhI, was elected a Fellow by the American Society of Agronomy. His research has included characteristics of soils and plants that limit nutrient supply or give rise to toxic factors, how the plants obtain nutrients from the soil, how elements interact, how nutrients affect plant growth and production, and fitting plants nutritionally to soils.

Cash Awards

Roy C. Galyon, Non-Ruminant Animal Nutrition Laboratory, NI, for performance exceeding normal requirements of duties.

James E. Gregory, Division of Operations, for sustained outstanding performance in supervising custodial activities.

Samuel A. Marshall, Division of Operations, for sustained outstanding performance in fulfilling assigned duties.

Quality Within Grade Increases

H. Duane Norman, Animal Improvement Programs Laboratory, APGI

Kathryn Kinner, Reproduction Laboratory, APGI

Harriet S. Gladish, Photo Laboratory

Louise H. Bragg, Office of the Chairman, IIBIII

Third Annual Awards Ceremony - At the ceremony held in the auditorium on September 12, 5 employees received 35 year service awards, 24 received 30 year awards, 25 received 25 year awards, 37 received 20 year awards, 71 received 10 year awards, 22 were recognized for Cash Awards, 44 recognized for Quality Within Grade Increases, 4 recognized for suggestions, and 26 were recognized for 30 outside awards. We were honored by having Mr. Paul A. Vander Myde, Deputy Assistant Secretary for Conservation, Research and Education, and Dr. Steven C. King, Deputy Administrator, NER, assisting Dr. Hanson with the presentations.

Visitors

India - Dr. S. P. Arora, Head of the Division of Dairy Cattle Nutrition and Physiology, National Dairy Research Institute, Karnal, Haryana, recently visited several scientists in the Nutrition Institute. He also presented a seminar entitled "Trace Element Research at the N.D.R.I., Karnal" in which

he presented an overview of his Division's research effort. Work in progress there includes investigations into the possible role of selenium poisoning in the etiology of Degnala Disease, experiments on the influence of zinc on vitamin A utilization by animals, and studies on the effect of chromium on lipid and carbohydrate metabolism in large animals.

Egypt - Dr. Bakir Oteifa, Faculty of Agriculture, Cairo University, Giza, recently visited with the scientists in the Nematology Laboratory, PPI. He discussed one current and two new PL 480 projects with Drs. Endo, Nickle, and Rebois, and gave a very interesting seminar on "Nematodes in Irrigated Areas in Egypt" with the emphasis on the Aswan Dam area.

England - Mr. Graham Rose of the London Times was at BARC to gather information for future articles dealing with agricultural research. Dr. Frobish, Non-Ruminant Animal Nutrition Laboratory, NI, and Drs. Faust and Zimmerman, Fruit Laboratory, PGGI, explained to him the research being conducted by their units.

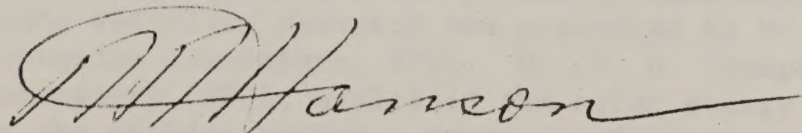
Japan - Dr. Kosuke Yamashita, Kihara Institute for Biological Research, visited Drs. Sarvella, Meiners, Stewart, Kilpatrick, Weiser, Oaks and Mr. Winters. He was touring the U.S. to learn about research in wheat, beans, and plant exploration.

Denmark - Mr. Jorgen Risum, Danish Research Institute for Poultry Research, Copenhagen, visited with Clarence Harris and Dr. T. F. Webb, Animal Products Marketing Laboratory, AMRI. The purpose of the visit was to become acquainted with the poultry slaughtering and defeathering methods and facilities research being conducted by APML and the University of Maryland.

England - Mr. L. A. Mound, a Deputy Keeper of Entomology, British Museum (Natural History), spent most of July studying thrips and related insects in the National Collection. These collections are located at BARC and are curated by Kellie O'Niell and Dr. Manya B. Stoetzel, Systematic Entomology Laboratory, IIBIII. Mr. Mound spoke on the problem of evaluating morphological and biological evidence as a means of species discrimination at an IIBIII seminar entitled "Virginity, versatility, and vagility."

Australia - Dr. H. McL. Gordon, Emeritus Helminthologist, McMaster Laboratory, C.S.I.R.O., visited with the Chairman, Animal Parasitology Institute, and with Drs. H. Herlich, F. W. Douvres, and M. L. Colglazier of the Ruminant Helminthic Diseases Laboratory.

Kenya - Dr. John B. Castelino, Senior Lecturer in Zoology, University of Nairobi, visited the Animal Parasitology Institute where he discussed genetic resistance to helminth parasites in ruminants with H. Herlich, F. W. Douvres, and R. A. Knight. In addition, he was familiarized with the Index-Catalogue and Parasite Collection by J. R. Lichtenfels.



A. A. Hanson
Director, BARC

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
NORTHEASTERN REGION
AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705
NOTES FROM THE DIRECTOR

No. 64

October 30, 1975

What is a Farm? The family farm is like the old gray mare: "She ain't what she used to be." The official definition of a farm is being changed, to better reflect today's agriculture. The U.S. Department of Agriculture and the Bureau of the Census will now define a farm as "any establishment from which \$1,000 or more of agricultural products is sold or would normally be sold during a year." Under the old definition used since the late 1950's, a farm was any place under 10 acres with annual sales of \$250 or more of agricultural goods, or any place of 10 or more acres selling \$50 or more. The new definition will result in a decreased number of farms. The extent of the decrease will be known following review of the 1974 Census of Agriculture.

Campaigns

Presidential Cost Reduction Campaign - Secretary Butz has suggested: "Support the President by contributing ideas to reduce spending. Concentrate on what you know best--your own job. You may earn a cash award or a letter from the President. Suggest--your ideas are welcome."

Combined Federal Campaign - Spirit of '76--The giving of people by people for people. The Campaign Chairman is Frank G. Zarb, Administrator, Federal Energy Administration. Secretary Butz has suggested; "Let's put Agriculture out in front in the Combined Federal Campaign!" Acting Administrator McCracken has stated, "My staff and I join President Ford, Secretary Butz, and civic leaders in enthusiastically supporting this year's campaign. I hope each of you will join me in giving support by responding to this need for help."

Congressional Visits to BARC

Congressman Gilbert Gude of Maryland, a member of the House Government Operations Committee, visited BARC on October 14. Dr. Hanson presented a BARC overview and escorted the Congressman during his tour. Drs. J. F. Parr, E. Epstein, W. D. Burge, and Mr. G. B. Willson, Biological Waste Management and Soil Nitrogen Laboratory, AEQI, discussed their research and showed the Congressman the sewage sludge composting site and the soil application site.

Congressman Frederick W. Richmond of New York, a member of the House Agricultural Committee, visited BARC on October 17. Dr. Hanson presented a BARC overview and escorted Mr. Richmond during his tour. Dr. J. F. Parr, Laboratory Chief, and G. B. Willson of the Biological Waste Management and Soil Nitrogen Laboratory, discussed sewage sludge composting at the composting site. Animal waste recycling research was presented by Dr. L. W. Smith, Feed Energy Conservation Laboratory, APGI. Dr. P. D. Thompson, Genetics and Management Laboratory, APGI, explained the solar energy research project being installed at the milking parlor. Human nutrition research was discussed with Dr. W. Mertz, Chairman, Nutrition Institute, who took the Congressman to visit five Laboratories in his Institute.

Mr. S. Kohashi and Mr. R. Kelso, Legislative Assistants to Senator H. L. Fong and Senator G. W. McGee, respectively, visited BARC on October 16. Both Senators are members of the Senate Appropriations Committee. Dr. Hanson presented a BARC overview and escorted the Legislative Assistants on a tour of the South Farm research plots. Dr. Putnam accompanied them during their visit to other research projects. Dr. M. Faust, Chief, Fruit Laboratory, PGGI, discussed fruit research at the North Farm orchard. Photosynthesis research was explained by Dr. G. E. Carlson, Chief, Light and Plant Growth Laboratory, PPhI. The importance of nitrogen fixation was presented by Drs. C. Sloger and D. R. Weber, Cell Culture and Nitrogen Fixation Laboratory, PPhI. Soil nitrogen mineralization was presented by Dr. G. Stanford, Biological Waste Management and Soil Nitrogen Laboratory, AEQI. Dr. W. Mertz, Chairman, NI, and members of his staff explained human nutrition research. The animal parasitology research program was presented by Dr. H. Herlich, Ruminant Helminthic Diseases Laboratory, API. Dr. Steven C. King presented an NER overview. Mr. Kohashi returned the next day to review research management procedures with Dr. Putnam.

Employee Activities

Chairman of Commission - Dr. Philip C. Kearney, Chief, Pesticide Degradation Laboratory, AEQI, was elected Chairman of the Commission on Terminal Pesticide Residues at the International Union of Pure and Applied Chemistry meetings in Madrid, Spain, in September 1975. The Commission is comprised of an international body of scientists who are experts on metabolism of pesticides in the environment.

Committee Appointment - Doris Baker, Carbohydrate Nutrition Laboratory, NI, has been appointed to the Food Fiber Committee of the American Association of Cereal Chemists. Other committee members are from Ralston Purina; American Institute of Baking; Archer Daniels Midland Company; General Mills, Inc.; Quaker Oats; Kellogg Company; Pillsbury Company; Fisher Mills, Inc.; Corn Products Company International, Inc.; General Foods; Michigan State University; and Cornell University. The objectives of the committee are to provide a reference fiber source for use in animal and human feeding studies, to clarify nomenclature, and to establish methodology for defining composition of the reference fiber source.

U.S. AID/RESEARCH Review on Haemoprotozoan Diseases - Dr. Thomas O. Roby, Chief, Haemoprotozoan Diseases Laboratory, API, participated in the annual review of research sponsored by USAID in three International Centers for Tropical Agriculture. These were the International Center for Tropical Agriculture (CIAT), Cali, Colombia, S.A., where bovine anaplasmosis and babesiosis are being investigated; the International Center for Insect Physiology and Ecology (ICIPE), Nairobi, Kenya; and the International Laboratory for Research for Animal Diseases (ILRAD), Kabete, Kenya, where trypanosomiasis and theileriosis are under investigation. Research on these diseases of cattle is emphasizing the immunological aspects, with the ultimate objective being the development of useful means of vaccination.

International Congress of Refrigeration - Dr. R. E. Hardenburg, Chief, Horticultural Crops Marketing Laboratory, AMRI, attended the 14th Congress of Refrigeration in Moscow, Russia, September 19-30. He presented a paper on "Progress on controlled-atmosphere storage, intermittent warming, and decay control of stone fruit." He also gave a paper on "Biological requirements of lettuce shipped in mechanically refrigerated rail cars or trailers" for Dr. John Harvey, ARS, Fresno, California.

Committee on Animal Nutrition, NAS-NRC - Three members of the Ruminant Nutrition Laboratory, NI, are currently involved in the activities and writing of reports for the Committee on Animal Nutrition, NAS-NRC. Mr. Ivan Lindahl is the Chairman of the newly formed Subcommittee which is writing the first report on the Nutrient Requirements of Goats. Dr. Paul Moe is serving on the Subcommittee on Feed Composition and is also rewriting the energy section for the new report on the Nutrient Requirements of Dairy Cattle. Dr. Robert Oltjen is the Vice-Chairman of the Committee on Animal Nutrition and is also serving as a member of a subcommittee which is writing a report on the Utilization of Non-Protein Nitrogen by Farm Animals.

Ninth National Conference on Wheat Utilization Research - Dr. A. A. Hanson attended the Ninth National Conference on Wheat Utilization Research held October 8-10, 1975, in Seattle, Washington. He presented a paper coauthored with Dr. J. C. Craddock, Germplasm Resources Laboratory, PGGI, entitled "Wheat Germplasm Resources - The Program at the Beltsville Agricultural Research Center."

Tobacco Chemists Research Conference - The Tobacco Laboratory, PGGI, and the University of Maryland were co-hosts of the 29th Tobacco Chemists Research Conference on October 8-10, 1975, at the Center of Adult Education, University of Maryland. Dr. Tien C. Tso, Chief, Tobacco Laboratory, was Chairman of the Conference. The Conference was attended by over 300 scientists from public and private institutions, industry, and 12 other countries.

International Symposium on Juvenility of Woody Perennials - The International Symposium on Juvenility of Woody Perennials was held September 28 to October 1, at the University of Maryland. This conference was attended by scientists of horticulture, forestry, plant physiology, and developmental biology. The second part of the symposium will be held November 3 to 6 at Berlin, Germany. The twin symposia were organized by the working group on juvenility under the auspices of the International Society for Horticultural Science. The North American part of the twin symposia was organized by Dr. R. H. Zimmerman, Fruit Laboratory, PGGI, and Dr. J. A. Romberger, Forest Physiology Laboratory, Forest Service. Dr. Zimmerman is the Chairman of the North American section of the working group and he is also the editor of the proceedings of both symposia. The symposium was very successful focusing on genetic and physiological factors important in flowering of woody plants and in the control of phase change from vegetative to flowering state.

Changes in Committee Membership

BARC Science Seminar Committee - Rex Powell, Animal Improvement Programs Laboratory, APGI, has replaced Max J. Paape.

BARC EEO Committee - Joyce Shaffer, Instrumentation Research Laboratory, AMRI, has replaced Judith Abbott. Robert L. Smiley, Systematic Entomology Laboratory, IIBIII, has joined the committee as the first representative from this Institute.

BARC Training Committee - B. A. Bierl, Organic Chemical Synthesis Laboratory, AEQT, has replaced E. M. Osborne; E. L. Civerolo, Fruit Laboratory, PGGI, has replaced A. K. Stoner; R. E. Pearson, Genetics and Management Laboratory, APGI, has replaced D. J. Bolt; J. M. Vetterling, Histoprotzoan Diseases Laboratory, API, has replaced R. A. Knight; J. Gordon, Division of Operations, has replaced R. Yates; and O. E. Michaelis, Carbohydrate Nutrition Laboratory, NI, has replaced D. Kern. The new Committee Chairman is M. N. Christiansen, Plant Stress Laboratory, PPHI, and the new Vice Chairman is M. J. Thompson, Insect Physiology Laboratory, PPI.

Tissue Culture Committee - Gideon W. Schaeffer, Cell Culture and Nitrogen Fixation Laboratory, PPHI, and Robert N. Stewart, Ornamentals Laboratory, PGGI, have been reappointed. Dr. Schaeffer has been reappointed Chairman for another year.

Recent Research Accomplishments

Biological Control Agent Shows Promise for Controlling Encephalitis Mosquitoes - Encephalitis is one of several mosquito-borne diseases that may be suppressed by including parasites of these insect pests among the control methods now available. Mosquitoes that carry the encephalitis virus are susceptible to attack by a natural enemy, the nematode or parasitic roundworm.

Dr. William R. Nickle, Nematology Laboratory, PPI, described research with these biological control agents against different species of mosquitoes associated with encephalitis, malaria, yellow fever, or heartworm of dogs. He obtains nearly 400 million eggs weekly from nematodes reared on 300,000 northern house mosquitoes (Culex pipiens). This species, and a related subspecies, the southern house mosquito, are potential carriers of encephalitis. Dr. Nickle is using the Reesimermis nielsenii species of nematode which, unlike some other nematodes, is harmless to crops and other plants. This species is also harmless to humans, other animals, fish and beneficial insects such as the honey bee.

In nature, these parasites attack some 60 species of mosquito, but their distribution has been spotty. We give nature a helping hand by releasing the nematodes' eggs along the edges of ponds and other breeding sites of mosquitoes. From 75 to 95 percent parasitization has been obtained after only 1 day. Upon hatching, the nematodes seek out mosquito larvae and penetrate their bodies. There, the nematodes coil around the insects' thoraxes in a parasitic existence until they mature. The emaciated mosquitoes bleed to death when the nematodes bite a hole in their hosts and emerge to mate.

Unlike chemical control of mosquitoes, repeated applications of R. nielsenii nematodes may be unnecessary on a frequent basis. These parasites kill most of the mosquitoes on the first application, often become established and kill about 50 percent of the mosquitoes all summer long. Experiments are underway to determine whether the nematode eggs will survive the Northeastern winters to perpetuate this system of biological control indefinitely.

Like all other control methods, the use of nematodes against mosquitoes has limitations as well as potentials. For example, the nematodes cannot survive in either brackish or polluted waters. Because some species of mosquitoes breed in such waters, other control measures must be employed in these locations. Also, R. nielsenii nematodes do not control all species of mosquitoes.

New Classification Added To National Poultry Improvement Plan - Thirteen States have been classified as "U.S. Pullorum-Typhoid Clean State," a new designation under the National Poultry Improvement Plan operated by the Animal Improvement Programs Laboratory, APGI. This new classification recognizes those States that have had no outbreaks of pullorum or fowl typhoid diseases in commercial chicken and turkey breeding flocks in the last twelve months. These States also have the necessary regulations which will ensure detection and elimination of any future infections, should they occur.

Pullorum and fowl typhoid are poultry diseases caused by specific salmonellae that are essentially restricted to poultry. The diseases can be detected by a blood test. Before the blood testing program initiated by USDA's Agricultural Research Service, these two diseases caused devastating losses in poultry, often exceeding 50 percent of the flock.

The thirteen States that have qualified under the new classification are Arkansas, Connecticut, Florida, Illinois, Maine, Massachusetts, Minnesota, Mississippi, Nebraska, New Hampshire, North Carolina, South Dakota, and Utah.

Visitors

Australia - Dr. A. A. Hanson reviewed the organization of BARC with Dr. R. M. Watts, Director General of Agriculture, New South Wales, and Mr. E. N. Fitzpatrick, Director of Agriculture, Western Australia, on October 16, 1975. They were accompanied by Mr. G. M. Percival, Agricultural Counsellor, and Dr. K. A. Doyle, Veterinary Attache, Australian Embassy, in visits to the Pesticide Degradation Laboratory, AEQI, Nematology and Insect Physiology Laboratories, PPI, and API.

Czechoslovakia - Miroslav Kutilek, a professor of soil sciences from Prague, Czechoslovakia, visited Messrs. Holtan and Comer, and Dr. England of the Hydrograph Laboratory, PPHI, to discuss soil and water pollution. He also visited with Drs. Faust and Vaverka of the Fruit Laboratory, PGGI. Dr. Vaverka is a Foreign Research Associate from Czechoslovakia detailed to the Fruit Laboratory for six months.

Safety

Safety is an accident with no place to happen - Good housekeeping in the greenhouses, barns, storage buildings, and other small structures is equally as important as good housekeeping in the office and laboratories.

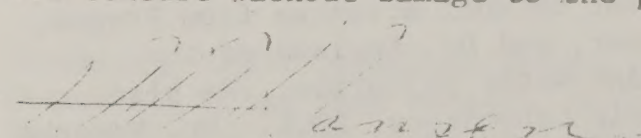
Remember, we exist to conduct agricultural research, not to collect junk. Unfortunately, we have some junk collectors. These unnecessary collections may well be just the place your accident will happen. When the accident happens, you no longer have safety. If you wait until tomorrow to start cleaning, you are increasing the chance that you will have an accident.

We made real progress in the spring with "Operation Cleanup." Perhaps it is time that we check again to be sure that everything is under control.

Long Term Research Programs

Nondestructive Testing of Agricultural Products - The Instrumentation Research Laboratory, AMRI, has pioneered in the development of methods for nondestructive testing of agricultural products. The work began with automatic egg candling and a method for detecting blood in intact white shell eggs was developed in 1953. This was followed with an automatic machine for sorting eggs for shell color and another machine for automatic detection of "green rot" in intact eggs. The method for detecting blood in eggs was improved to work on brown as well as white shell eggs and a machine was perfected to sort eggs automatically.

The spectrophotometric techniques developed for eggs were applied to other commodities resulting in instruments to measure the internal color of tomatoes (1957), maturity of apples, peaches, and plums (1958), and to detect water-core in apples (1962) and hollow-heart in potatoes (1960). A high-precision multipurpose spectrophotometer was developed for measuring the spectral transmittance and reflectance properties of agricultural materials over the 200- to 2500-nm region. This instrumentation has been used to develop the basic information leading to the development of instruments for rapid analysis of composition of agricultural products. These include the Ground Meat Analyzer (1973) for measuring the fat content of ground beef and the infrared grain analyzer (1969) for measuring the oil, moisture, and protein content of grain. Other developments include the Fruit Photometer (1973) for measuring the chlorophyll and anthocyanin content of the skin of apples. The sonic resonance technique for measuring the textural properties of fruits and vegetables was also developed at Beltsville (1967). This technique has been applied to evaluate potatoes, apples, and peaches for texture without damage to the product.


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NOTES FROM THE DIRECTOR

No. 66

November 20, 1975

Rural Movement Not So Surprising - Trend-watchers occasionally report some interesting goings-on. One of the most interesting to surface lately has to do with people migration. It seems that millions of Americans are exiting from the big cities and heading for life in rural areas. To be downright statistical about it, population in non-metropolitan counties (those without cities of 50,000 or more) increased 4.2 percent from 1970 to 1973. By contrast, population in the bigger metro areas gained only 2.9 percent. What's remarkable about this, they tell us, is that it's the first time in this century that non-metro counties have grown at a faster rate than metro areas.

The shift back to rural areas apparently has caught even the population experts by surprise and all sorts of explanations are cropping up. Some say it's because of the decentralization trend in manufacturing which is contributing to the economic growth of rural and small-town areas. Others point to the improvement in rural living conditions and still others attribute it to the youth revolution with its anti-materialistic and anti-suburban viewpoint. All of these factors have no doubt played a part in the movement. But those people who never left the rural areas are probably not as hard-pressed as the experts are to come up with an explanation. Their only puzzlement about the whole thing is not why it's happening, but why it took so long to begin. (Quoted from Southeast Farm Press)

Cooperative Service - The Insect Identification and Beneficial Insect Introduction Institute is the major source of authoritative identifications of insects and mites in the Western Hemisphere. Over 5,000 lots of insects and mites have been received for identification during the last three months. Among these were three large shipments of insects submitted by U.S. Forest Service Laboratories in Missoula, Montana; Moscow, Idaho; and Albuquerque, New Mexico, in connection with their research projects on the western spruce budworm, spruce coneworm, pine tip moth, and bark beetles of the genus Dendroctonus. To date, over 500 identifications have been provided for these three lots by research scientists of the Systematic Entomology Laboratory.

Visiting Scientist - Dr. F. Lukoschus, Zoologisch Laboratorium, Katholieke Universiteit, Nijmegen, The Netherlands, is a visiting acarologist in the Systematic Entomology Laboratory, IIBIII, and the Department of Entomology, Smithsonian Institution, during November and December. He is collecting parasitic mites from mammals preserved in alcohol in the National Collection which will be used for his studies. Additional specimens will be distributed to specialists throughout the world for taxonomic and ecological studies. Dr. Lukoschus presented a lecture on his research at a meeting of the Entomological Society of Washington on November 6.

New Laboratory Chief - Dr. Lewis W. Smith has been chosen as Chief, Feed Energy Conservation Laboratory, APCI. This is one of the new Laboratories organized at the beginning of this fiscal year. Prior to the organizational realignment, Dr. Smith was on the staff of the Biological Waste Management Laboratory, AEQI, where he conducted research on the nutritive value of processed animal excreta as livestock feeds. The primary mission of this new Laboratory is to develop livestock feedstuffs from organic agricultural byproducts which have not been traditionally used for feeding animals.

Retirement - Dr. Don H. Scott, Fruit Laboratory, PGGI, will retire November 30. He joined the Bureau of Plant Industry, USDA, at Beltsville in 1937. He was the Investigations Leader for small fruit research from 1957 to 1972, and since then has conducted berry research. During his career he wrote 182 scientific articles and developed or participated in the development of 85 new and improved varieties of small fruit. The highlights of his work were the development of high quality red stéle resistant strawberries, the organization of the virus-free strawberry propagation program, the introduction of high quality blueberry cultivars, and the development of thornless blackberries. His pioneering work has been recognized by professional societies and grower associations. He was elected Fellow of the American Association for the Advancement of Science and of American Society for Horticultural Science. He received the coveted Wilder Medal as the leader of the team that developed commercial propagation of virus-free strawberry plants. He received a gold medal from the Italian fruit growers for helping them to improve strawberry production and the Blueberry Pioneer Award from the Michigan Blueberry Growers Association.

We at Beltsville will miss Don, but hope he will visit us frequently.

USSR Sugarbeet Team - Dr. I. A. Gaava, Agricultural Counsellor, Embassy of the USSR, accompanied the USSR Sugarbeet Team to BARC on November 10. Dr. C. E. Weir presented an overview of the organization at Beltsville, and Drs. R. E. Coleman and C. F. Lewis, NPS; Dr. J. S. McFarlane, U.S. Agricultural Sugarbeet Station, Salinas, California; Mr. J. Bilous, FAS; and Ms. L. A. Bernstein, ERS, conducted a debriefing session of their U.S. visit. Dr. J. G. Moseman, Chairman, PGGI, met with the Team and discussed the Institute's sugarbeet program, and Dr. G. E. Coe, Field Crops Laboratory, PGGI, discussed his projects in sugarbeet breeding and took them on a tour of greenhouse facilities.

Membership on BARC Committees - Some confusion exists regarding membership on BARC committees. Initial appointments were made by the Director based upon recommendations made by the Institute Chairmen. Rotation Schemes were developed for a number of the committees.

We are trying to monitor the Rotation Schemes and notify the Institute Chairmen when a member is scheduled to rotate off. We request a nomination or renomination, if desired. Upon receipt of the nomination or renomination, memoranda are prepared making the actual appointment with carbon copies to the Institute Chairmen and Laboratory Chiefs involved.

When changes in committee membership is desired or necessary for reasons other than the scheduled rotations, the Institute Chairmen should send nominations to the Director who will make the actual appointment. In these cases, it will help to avoid confusion if the Institute Chairmen will identify the member being replaced by the nominee. If additional membership is being proposed, this should be specified in the nomination.

Committee Membership

Dr. Robert C. Leffel, Chief, Cell Culture and Nitrogen Fixation Laboratory, PPHI, will replace Dr. Joseph H. Graham, Plant Stress Laboratory, PPHI, on the Greenhouse Management Committee effective January 1. Dr. Martin M. Kulik, Seed Quality Laboratory, AMRI, has been reappointed for another three-year term.

Dr. William T. Wergin, Reproduction Laboratory, APGI, has been appointed to the Electron Microscopy Committee.

Last April, Dr. James D. Anderson, Post-Harvest Plant Physiology Laboratory, AMRI, replaced Dr. Morris Lieberman on the Science Seminar Committee. Inadvertantly, we failed to note this change when it occurred.

Coming Events

Beltsville Symposium on Virology in Agriculture - The Symposium will be held May 10-12, 1976. There will be four overview lectures on the physical-chemical properties and modes of replication of animal, plant, insect, and microbial viruses. In five symposium sessions, prominent investigators will talk on various aspects of agriculture-related virological research, both basic and applied. Emphasis will be placed on recent advances which promise to benefit agriculture and on findings with important implications for science in general. In addition, two sessions of poster presentations are planned, in which participants may display and explain their recent research results.

Employee Activities

Trip to Mexican Barley, Wheat, and Triticales Nurseries - Dr. R. A. Kilpartick, Germplasm Resources Laboratory, PGGI, visited El Batan, Toluca, and Santa Clara from September 20 to October 1. While in El Batan, he presented a seminar to approximately 75 people on "Problems and Advantages Associated with Cooperative International Nurseries." He had an opportunity to see a disease of wheat that was new to him; snow mold on leaves caused by Fusarium nivale.

International Conference - Drs. Charles D. Foy and Howard E. Heggestad, Plant Stress Laboratory, PPHI, recently attended an International Crop Productivity-Research Imperatives Conference at Harbor Springs, Michigan. Dr. Foy served as discussion leader on Ion Toxicities Within the Environmental Stress (Water, Temperature, Ion, Air) Work Group and contributed to a position paper. Dr. Heggestad served as co-chairman of the section on Environmental Stress with special responsibility for plant stress caused by air pollutants. Published proceedings will be available early in 1976.

Invited Presentation - Dr. George C. Papavizas, Chief, Soilborne Diseases Laboratory, PPI, visited with staff and students at the Department of Plant Pathology, University of Minnesota, November 5-7. At the invitation of Francis A. Wood, Head of the Department, he gave a lecture on "Ecological studies of soilborne plant pathogens: Prelude to integrated control."

Honors and Awards

Cash Awards

Paul E. Brocht, Animal Operations Unit, for Sustained Outstanding Work Performance as relief animal caretaker.

Kay M. Behall, Carbohydrate Nutrition Laboratory, NI, for successful completion of a human metabolic study involving carbohydrate metabolism and the use of oral contraceptives.

Susan M. Price, Non-Ruminant Animal Nutrition Laboratory, NI, for outstanding performance of secretarial duties for a Laboratory Chief.

Terri A. Fewlass, Avian Physiology Laboratory, APGI, for outstanding performance as a Biological Technician executing many diverse experiments in reproductive physiology encompassing metabolic, fertility, and hatchability studies.

Quality Within Grade Increase

Roy L. Brocht, Ruminant Nutrition Laboratory, NI.

Safety

Safety is a Culture - Safety is more than engineering, it is more than a science. Safety is a culture of the human way of life with the risks of life--a culture that can be shared freely and enjoyed by all peoples.

Safety is a state of relative freedom from risk of injury, dependent on our way of life with all of our things of life. Complete safety never existed and never will exist. When a comprehensive history of the safety movement is written, it will be a tale of scientific and engineering struggle, adventure and achievement in protecting persons from the forces of nature and the perils of their own creations. It will be a story that parallels the steady march of civilization. BARC will be a part of that history. We can make it something to be proud of if we all do our part.

Visitors

China - Ten Meteorologists from the Peoples Republic of China visited BARC on November 5. Dr. D. M. Herschfield, Hydrograph Laboratory, PPHI, arranged for the tour. Dr. J. H. Bennett, Plant Stress Laboratory, PPHI, reviewed the research on effects of air pollution on plants, and showed them the laboratory and greenhouse facilities and monitoring instrumentation. Following a brief bus tour of BARC-West, the group toured NAL. Dr. T. C. Tso, Chief, Tobacco Laboratory, PGGI, met members of the group at NAL, as they requested during their tour.

Young Farmers Association - Mr. Sean Eustace, National President of the Young Farmers Association, and his wife, visited BARC on November 11. Mr. Eustace was interested in beef cattle nutrition specifically, and cattle research in general. They will be visiting livestock facilities in Kansas and Colorado after a brief stay in the Washington, D.C. area.

Latin America - On November 10, three food distribution specialists from Latin America visited the Research Center. Mr. Jorge Antonio Cavalcante DaSilva and Mr. Leonardo Valadares De Sa Barretto Sampaio were from Brazil and Mr. Angel Guillermo Valencia Valencia was from Ecuador. They visited the Food Distribution Research Laboratory, AMRI, and talked with Richard M. Overheim on the problems relating to both retail and production food distribution centers. They were very impressed with the information that Mr. Overheim gave them, so much so that they cancelled another appointment so they could spend more time discussing these problems with him.

Biographical Sketch

Dr. David G. McHaffey was born in Pueblo, Colorado. He received his B.S. in Entomology with a minor in Agriculture from Colorado State University in 1954, an M.S. in Entomology with a minor in Plant Pathology from the University of Arizona in 1958, and a Ph.D. in Entomology with a minor in Plant Pathology from Washington State University in 1969.

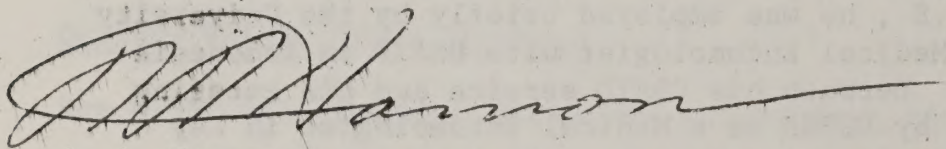
Following the completion of his M.S., he was employed briefly by the University of California before he became a Medical Entomologist with USAID in Indonesia and South Vietnam for five years. Between his USAID service and his entering Washington State, he was employed by USPHS as a Medical Entomologist in Key West, Florida. Upon completion of his Doctorate, he joined the staff of the Southern Research Institute in Birmingham, Alabama. Dr. McHaffey joined ARS as a Research Entomologist at Beltsville in 1972. During July 1974 he became Acting Chief, Biological Evaluation of Chemicals Laboratory, AEQI, and Chief the following March.

Dr. McHaffey's research has encompassed five areas: mosquito density, susceptibility to insecticides, and capability as vectors of human Plasmodium spp.; diapause in multivoltine Aedes spp.; development of treatment methods for administering chemosterilants; identifying chemosterilants for the boll weevil; and determining the importance of parameters in chemosterilant uptake and resulting sterility. He has gained worldwide recognition in several fields: medical entomology, as supported by the request from WHO for him to establish and direct a filariasis project and work as an advisor to the malaria program in Ceylon (1972); mosquito diapause; and insect chemosterilants. His contributions have been widely accepted and quoted in appropriate circles and manuscripts. He was the only medical entomologist with the Malaria Eradication Project in Central Java (Indonesia).

His research on photoperiod and temperature influences on the induction of egg diapause in multivoltine Aedes spp. was one of the first studies with non-colonized species. While at Southern Research Institute, Dr. McHaffey was one of the first to identify bulsulfan (1-4-butane-diol, ester of dimethanesulfonate) as an effective boll weevil chemosterilant. This compound was used to sterilize the males in the recent pilot boll weevil eradication project. During his tenure at SRI, more than 100 other compounds were identified as active chemosterilants on boll weevils. He was the first to experiment with chemosterilant combinations against the boll weevil.

Since joining ARS, Dr. McHaffey has developed a new, rapid "Vacuum-Dip" method of administering chemosterilants to boll weevils. It only requires 30 seconds, a considerable improvement over the 5-day sterility treatment used in the pilot boll weevil project. He has developed a more satisfactory technique of sterilizing weevils by fumigation and in cooperation with a BARC chemist, has conducted experiments which have demonstrated the importance of exactly defining the parameters to be used in any sterilization technique.

Dr. McHaffey is a member of the Entomological Society of America, Beta Beta Beta, Sigma Xi, New York Academy of Science, and other professional societies. He is listed in Who's Who in the South and Southeast and American Men and Women of Science. He has presented several invitational papers, participated in numerous technical conferences and workshops, and served in technical advisory capacities and been on special assignments.



A. A. Hanson
Director, BARC